

ARI Research Note 97-13

The Development of Patterns of Commitment: Implications for Performance

Thomas E. Becker
Washington State University

Robert S. Billings
The Ohio State University

Research and Advanced Concepts Office
Michael Drillings, Chief

May 1997

DTIC QUALITY INSPECTED 4



19970829 062

United States Army
Research Institute for the Behavioral and Social Sciences

U.S. ARMY RESEARCH INSTITUTE FOR THE BEHAVIORAL AND SOCIAL SCIENCES

**A Field Operating Agency Under the Jurisdiction
of the Deputy Chief of Staff for Personnel**

EDGAR M. JOHNSON
Director

Research accomplished under contract
for the Department of the Army

Washington State University

Technical review by

George W. Lawton

NOTICES

DISTRIBUTION: This report has been cleared for release to the Defense Technical Information Center (DTIC) to comply with regulatory requirements. It has been given no primary distribution other than to DTIC and will be available only through DTIC or the National Technical Information Service (NTIS).

FINAL DISPOSITION: This report may be destroyed when it is no longer needed. Please do not return it to the U.S. Army Research Institute for the Behavioral and Social Sciences.

NOTE: The views, opinions, and findings in this report are those of the author(s) and should not be construed as an official Department of the Army position, policy, or decision, unless so designated by other authorized documents.

REPORT DOCUMENTATION PAGE					
1. REPORT DATE 1997, May		2. REPORT TYPE Final		3. DATES COVERED (from... to) August 1993-November 1995	
4. TITLE AND SUBTITLE The Development of Patterns of Commitment: Implications for Performance				5a. CONTRACT OR GRANT NUMBER MDA903-93-K-0019	
				5b. PROGRAM ELEMENT NUMBER 0601102A	
6. AUTHOR(S) Thomas E. Becker (Washington State University) and Robert S. Billings (The Ohio State University)				5c. PROJECT NUMBER B74F	
				5d. TASK NUMBER 1902	
				5e. WORK UNIT NUMBER C02	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) Washington State University Room 240, French Administration Building Pullman, WA 99164-1025				8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES) U.S. Army Research Institute for the Behavioral and Social Sciences ATTN: PERI-BR 5001 Eisenhower Avenue Alexandria, VA 22333-5600				10. MONITOR ACRONYM ARI	
				11. MONITOR REPORT NUMBER Research Note 97-13	
12. DISTRIBUTION/AVAILABILITY STATEMENT Approved for public release; distribution is unlimited.					
13. SUPPLEMENTARY NOTES COR: George W. Lawton					
14. ABSTRACT (<i>Maximum 200 words</i>): This report provides the results of four studies of the relationship among certain dispositional variables, cognitive factors, employee commitment, intentions, and performance. Study 1 developed measures of attachment styles, Study 2 examined the relationships between personality factors (including attachment styles) and job attitudes, Study 3 demonstrated that attachment styles and motivation to commit predict organizational commitment, and Study 4 established that certain forms of commitment predict employee performance. Conclusions and recommendations are presented for each study.					
15. SUBJECT TERMS Organizational commitment Organizational behavior Attachment Motivation Attitude-behavior relationship					
SECURITY CLASSIFICATION OF			19. LIMITATION OF ABSTRACT	20. NUMBER OF PAGES	21. RESPONSIBLE PERSON (Name and Telephone Number)
16. REPORT Unclassified	17. ABSTRACT Unclassified	18. THIS PAGE Unclassified	Unlimited	68	

THE DEVELOPMENT OF PATTERNS OF COMMITMENT: IMPLICATIONS FOR PERFORMANCE

EXECUTIVE SUMMARY

Research Requirement:

To examine (1) the immediate antecedents of employee commitment, and (2) the connections between particular patterns of commitment and job performance. This includes developing measures of appropriate variables, collecting data on recent college graduates, statistically analyzing the data, and developing quantitative models of employee commitment.

Procedure:

Four field studies of recent graduates of two universities were conducted to develop psychometrically sound measures, determine the relationships between personality factors and job attitudes, assess the potential of several key antecedents (attachment styles and motivation to commit) for predicting organizational commitment prior to entry into organizations, and examine the associations between certain forms of commitment and employee performance. Each study involved surveying participants longitudinally via questionnaires, and statistically analyzing survey data (using factor analysis, multiple regression, and other multivariate methods) in order to test specific research propositions. To assess the link between commitment and performance, performance data were also gathered from graduates' managers.

Findings:

Certain personality variables predict employee commitment and other job attitudes, and different dispositional factors are differentially related to the foci of commitment (i.e., to whom employees become psychologically attached) and bases of commitment (i.e., the motives engendering attachment). Commitment, in turn, explains variability in employee intentions to perform important work-related behaviors, including intent to be punctual and intent to engage in organizational citizenship behaviors (i.e., cooperative behaviors which are not formally required but which facilitate individual and organizational effectiveness). Further, particular types of commitment (especially commitment to the supervisor based on internalization of goals and values) forecast job performance.

Utilization of Findings:

The results of this project can be used to develop and test more meaningful theories of how employee commitment develops. In addition, the measures developed in the four studies can be used in future investigations of the commitment process. The findings have implications for effective employee selection. For instance, organizations may consider testing for certain personality and cognitive variables in an attempt to select applicants who are likely to become committed and to have high levels of job motivation. Finally, the findings point to the potential of developing employee commitment (e.g., via leadership training, socialization, and teambuilding) on the job.

THE DEVELOPMENT OF PATTERNS OF COMMITMENT: IMPLICATIONS FOR PERFORMANCE

CONTENTS

	Page
OVERVIEW	1
Historical Background: Recent Advances in Commitment Research	1
Theoretical Model	2
STUDY 1: DEVELOPMENT OF ATTACHMENT STYLE SCALES	4
Introduction	4
Study 1A	6
Method	6
Results	9
Study 1B	11
Method	11
Results	12
Discussion	14
STUDY 2: PERSONALITY FACTORS AND JOB ATTITUDES	14
Hypotheses	16
Method	18
Results	19
Discussion	25
STUDY 3: PREDICTING ORGANIZATION COMMITMENT: THE ROLE OF ATTACHMENT STYLES AND MOTIVATION TO COMMIT	26
Commitment Propensity: The Role of Attachment Styles and Motivation to Commit	27
Propensity, Commitment, and Employee Intentions	30
Method	31
Results	33
Discussion	38
STUDY 4: FOCI AND BASES OF COMMITMENT AND PERFORMANCE	40
The Structure of Employee Commitment	41
Employee Commitment and Job Performance	41
Method	42
Results	45
Discussion	49
GENERAL DISCUSSION AND CONCLUSIONS	51
REFERENCES	53

LIST OF TABLES

Table 1. Exploratory factor analysis of attachment style items	7
2. Correlations among attachment style measures	11
3. Confirmatory factor analysis of attachment style items	13
4. Correlations between attachment styles and the Big Five	13
5. Intercorrelations among personality measures	21
6. Intercorrelations among job attitudes	21
7. Significant correlations between personality and job attitudes	22
8. Summary of regression analyses (Study 2)	24
9. Descriptive statistics and correlations (Study 3)	35
10. Simultaneous regressions of bases of commitment on propensity components	36
11. Hierarchical regressions of intentions on propensity components and commitment	37
12. Descriptive statistics and correlations (Study 4)	46
13. Results of confirmatory factor analyses (foci and bases of commitment)	47
14. Results of regression analysis (performance on commitment)	48

LIST OF FIGURES

Figure 1. Model of proximal antecedents and consequences of commitment	3
--	---

THE DEVELOPMENT OF PATTERNS OF COMMITMENT: IMPLICATIONS FOR PERFORMANCE

Overview

The purpose of this report is to describe research that we have conducted on the development of employee commitment and the relationship between commitment and effective performance. First, we will present a brief background on the state of knowledge in the area of employee commitment. Second, we will summarize the theoretical model upon which the research was based. Finally, we will describe and discuss four studies carried out to examine certain components of the model.

Historical Background: Recent Advances in Commitment Research

There is growing evidence that the attitudinal commitment of people to organizations is multidimensional and that the foci and bases of commitment are pertinent dimensions. Foci of commitment are the particular individuals and groups to whom a person is attached. Bases of commitment are the motives engendering attachment. It has been known for some time that employees may be committed to foci such as professions and unions, as well as to organizations. More recent research has demonstrated that many employees are committed to top management, supervisors, co-workers, and customers, and a recent meta-analysis has concluded that there is substantial evidence for the existence of multiple commitments (Mathieu & Zajac, 1990). Related studies suggest that commitment is not a zero-sum game; many employees evince high degrees of commitment to multiple foci.

Regarding the bases of commitment, early research suggested that there are different motivational processes underlying single attitudes. According to Kelman (1958; 1961), compliance occurs when attitudes and behaviors are adopted in order to obtain certain specific rewards or to avoid certain specific punishments. Identification occurs when attitudes and behaviors are adopted in order to be associated with a satisfying self-defining relationship with another person or group. Finally, internalization occurs when attitudes and behaviors are adopted because the content of the attitude or behavior is congruent with the individual's value system. More recent research has demonstrated that employee commitment, as a work-related attitude, may be based upon disparate motives. O'Reilly and Chatman (1986), for example, found that compliance, identification, and internalization, viewed as bases of commitment, were differentially related to prosocial organizational behaviors, turnover, and intent to stay with an organization. Other work has indicated that certain bases of commitment are related to effective performance while others are not (Meyer, Paunonen, Gellatly, Goffin, & Jackson, 1989).

There is also evidence that making distinctions among foci and bases of commitment contributes to the more conventional view of commitment, which is that employee attachment involves "the relative strength of an individual's identification with and involvement in a particular organization" (Mowday, Porter, & Steers, 1982: 27). Commitment defined in this manner has most often been measured by the Organizational Commitment Questionnaire (OCQ) developed by Porter, Steers, Mowday, and Boulian (1974); consistent with the unidimensional view underlying the instrument, the OCQ assesses commitment along a single dimension.

However, Becker (1992) has demonstrated that commitment to foci other than an organization, and bases of commitment, account for variance in key dependent variables above and beyond that accounted for by the OCQ. Specifically, controlling for demographic variables, Becker found that commitments to top management, supervisor, and work group were important determinants of job satisfaction, certain types of prosocial organizational behavior, and intent to quit, over and above commitment to an organization (as measured by the OCQ). Further, he found that compliance, identification, and internalization as bases of commitment were unique determinants above and beyond commitment to the foci.

In an attempt to link the foci and bases constructs, Becker and Billings (1993) created commitment profiles based upon both the foci and bases of commitment. Cluster analyses suggested four patterns of worker attachment: (1) employees who are attached to their supervisor and work group, but not to top management and the organization (called "the locally committed" by the authors), (2) those who are attached to top management and the organization, but not to the supervisor and work group ("the globally committed"), (3) workers attached

to both local and global foci ("the committed"), and (4) those attached to neither local nor global foci ("the uncommitted"). As the authors hypothesized, these four profiles of commitment were differentially related to intent to quit, job satisfaction, prosocial organizational behaviors, and certain demographic and contextual variables. For example, the locally and globally committed did not differ from each other with respect to overall satisfaction and prosocial behavior, but the locally committed were more satisfied with their supervisor and work group than were the globally committed; the locally committed also engaged in more prosocial behavior directed at the supervisor and work group than did the globally committed.

In summary, recent theory and research support the notion that foci and bases of commitment represent an important advancement in our understanding of peoples' attachment to organizations. To this point, however, neither theory nor research have addressed the issue of how foci and bases of commitment develop. Further, the specific manner in which commitment is linked to performance remains largely unexplored.

Theoretical Model

The general purpose of our research was to test the model shown on the next page. This model identifies the antecedents to foci and bases of commitment; the model also describes the links between foci and bases of commitment and performance. The following are some of the model's major tenets:

- o Dispositional variables affect the development of foci and bases of commitment through an expectancy-theory-type process. Certain individual and contextual differences predispose people to value particular types of outcomes associated with commitment to various foci. Some people, for instance, place high valence on extrinsic outcomes such as material rewards; others place higher valence on social outcomes such as interpersonal interaction, and still others value intrinsic outcomes such as effective performance most highly. The valence of specific outcomes creates what we have called commitment propensity: the readiness to become psychologically attached to certain foci in a certain manner.

The expectations that individuals have regarding outcomes associated with becoming committed to certain foci interacts with commitment propensity in determining to whom the individual becomes committed. In other words, individuals become committed to foci when commitment to the foci is expected to result in valued outcomes. The basis of commitment is also a function of these expectations.

- o Some dispositional variables are particularly relevant to understanding the development of profiles of commitment. For example, attachment style (the capacity to form specific kinds of bonds with other people) is a relevant dispositional factor. Based upon the rich literature on attachment styles, we have developed specific propositions tying them to the development of foci and bases of commitment.
- o Once the foci and bases of commitment are developed, the pattern of attachment at one time influences the outcome expectancies and valence of outcomes at a later time (hence the feedback loops in the model). For instance, once an employee becomes committed to his or her work group, the work group can affect the valence and expectancies vis a vis certain outcomes related to commitment to the group (e.g., via information sharing or impression management); this, in turn, has implications for the continued commitment to the group.
- o Patterns of commitment are related to performance through variables identified in Ajzen's theory of planned behavior (Ajzen & Madden, 1986; Ajzen, 1989). Briefly, commitment to others influences an individual's attitude toward performing specific behaviors (performance), his or her perceived norms regarding the behaviors, and his or her perceived control over the behaviors.
- o Performance is interpreted broadly to include both in-role and extra-role behaviors; this is consistent with the definition of organizational citizenship behaviors (voluntary, cooperative actions) as a subtle but crucial dimension of performance. Further, to the extent that absenteeism and turnover hamper productivity we would include them as central dependent variables of interest.

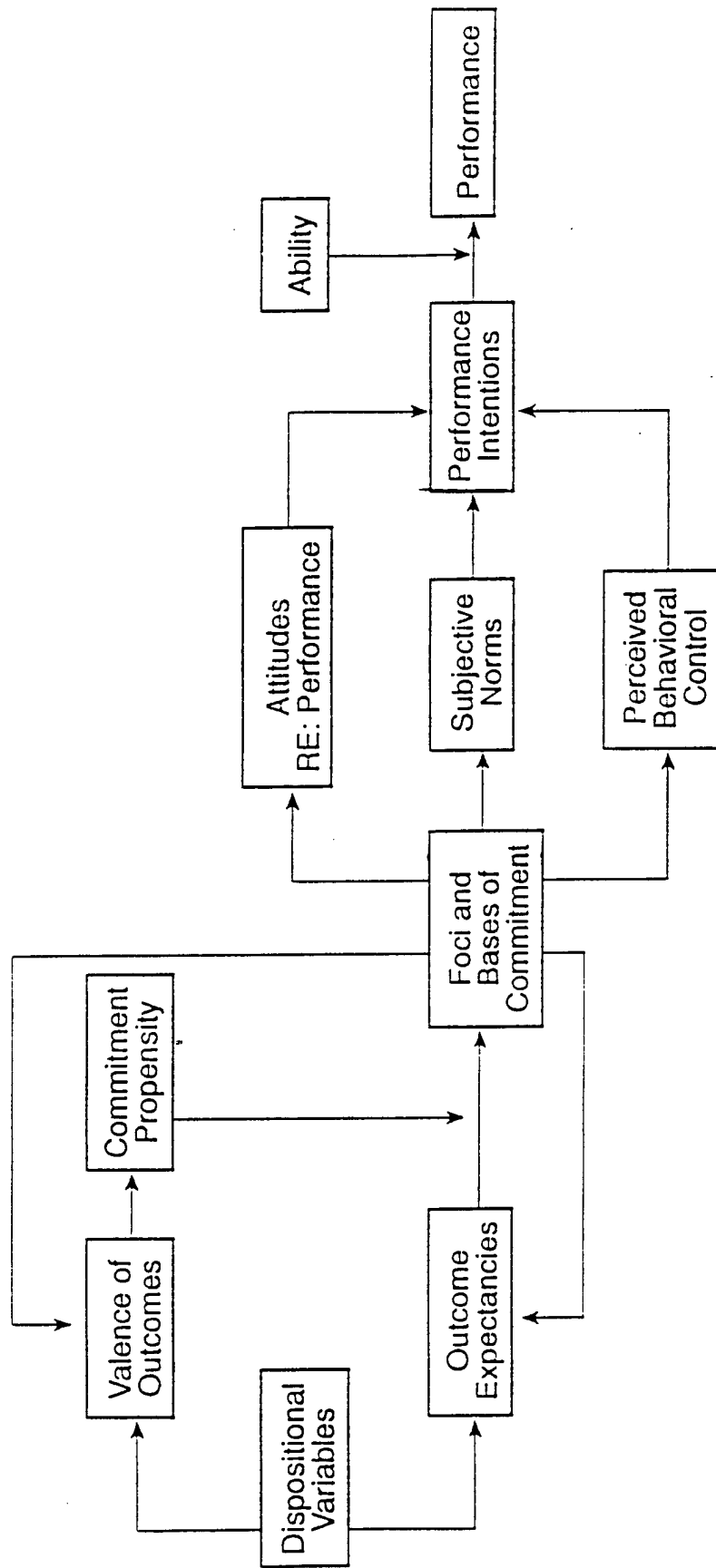


Figure 1. Model of proximal antecedents and consequences of commitment.

We turn now to a discussion of four studies that we have completed to partially test the above model. The goal of Study 1 was to develop psychometrically sound measures of attachment styles. Study 2 was carried out to examine the broad pattern of relationships between dispositional factors and employee attitudes, and Study 3 was conducted to investigate the specific relationship between attachment styles, commitment propensity, and employee commitment. Finally, the objective of Study 4 was to explicate the relationship between foci and bases of commitment and job performance.

Study 1: Development of Attachment Style Scales

Introduction

Bowlby (1969; 1973; 1980) proposed a developmental theory of attachment of infants that has spawned a mass of conceptual and empirical work in developmental and social psychology (Bretherton, 1992). Literature on child development has defined attachment as "the affectional bond or tie that an infant forms between himself and his mother figure" (p. 302) (Ainsworth, Blehar, Waters, & Wall, 1978). The attachment system is believed to function with the aim of providing children with a sense of perceived security. Through interactions with caregivers the child develops internal "working models," which include expectations and beliefs about the caring and responsiveness of the caregiver and beliefs regarding whether the self is worthy of care and attention (Ainsworth et al., 1978). Thus, early in life an individual acquires a certain *attachment style*, or characteristic manner of developing bonds with others.

Attachment theory holds that the attachment styles developed in childhood continue to affect the nature of adult bonds (Ainsworth, 1982; 1989; Ricks, 1985; Weiss, 1982). A number of adult attachment styles have been proposed. Hazan and Shaver (1987), drawing upon the work of Ainsworth et al. (1978), specified three adult attachment styles. People with a *secure attachment style* are able and willing to form close bonds with others and are comfortable in interdependent relationships. Individuals with an *avoidant attachment style* are distrustful of others and afraid of intimate relationships; hence, these people tend to avoid close personal bonds. Persons with an *anxious/ambivalent attachment style* desperately desire close relations with others but suspect that other people don't truly care about them.

Bartholomew (1990) presented a model that described prototypic forms of adult attachment along two dimensions: (1) the person's abstract perception of self, dichotomized as positive or negative (self as worthy of love and support or not), and (2) the person's image of others, also dichotomized as positive or negative (others as trustworthy and available versus unreliable and rejecting). By crossing these two dimensions, Bartholomew and Horowitz (1991) identified four attachment styles presumed to be relatively stable throughout adulthood. Adults with a *secure attachment style* have positive perceptions of both themselves and others. Because they have a sense of worthiness and an expectation that other people are typically accepting and responsive, these adults are comfortable with intimacy and autonomy. Individuals with a *preoccupied attachment style* have positive perceptions of others but view themselves negatively. This combination leads these people to strive for self-acceptance by gaining the acceptance of valued others; therefore, they are preoccupied with relationships. Adults with a *fearful attachment style* view both themselves and others negatively. These people are afraid of intimacy because they expect to be rejected by others. By being socially avoidant, these individuals hope to protect themselves against such rejection. Finally, people having a *dismissing attachment style* have a positive self-image but view others negatively. These individuals attempt to protect themselves from disappointment by avoiding personal relationships and maintaining an image of independence and invulnerability. Adults with this style of attachment are detached from others and see mutual dependence as a personal weakness.

Bartholomew and Horowitz's (1991) secure attachment type corresponds closely to Hazan and Shaver's (1987) secure type. Further, as noted by Brennan, Shaver, and Tobey (1991), the fearful attachment type is similar to Hazan and Shaver's avoidant type; both refer to individuals who are uncomfortable getting close to other people and who find it difficult to trust and depend upon others. Similarly, the preoccupied attachment type corresponds to Hazan and Shaver's anxious/ambivalent type; both refer to individuals who want close relationships but who believe that other people are reluctant to get close to them (Brennan et al., 1991).

In measuring adult attachment styles, questionnaires have been widely used. Hazan and Shaver (1987) developed a measure that has been widely utilized by researchers interested in romantic attachments (Baldwin, Fehr, Keedian, Seidel, & Thomson, 1993; Brennan & Shaver, 1993; Feeney & Noller, 1990; Hazan & Shaver, 1987, 1990; Kobak & Hazan, 1991; Mayseless, 1993; Mikulincer, Florian, & Tolmacz, 1990; Senchak & Leonard, 1992; Shaver & Brennan, 1992). Hazan and Shaver's instrument provides three paragraphs describing different attachment styles, and instructs each respondent to put a checkmark next to the paragraph that best describes him or her. The paragraphs read as follows:

I find it relatively easy to get close to others and am comfortable depending on them and having them depend on me. I don't often worry about being abandoned or about someone getting too close to me.
<Secure attachment style>

I am somewhat uncomfortable being close to others; I find it difficult to trust them completely, difficult to allow myself to depend on them. I am nervous when anyone gets too close, and often love partners want me to be more intimate than I feel comfortable being. <Avoidant attachment style>

I find that others are reluctant to get as close as I would like. I often worry that my partner doesn't love me or won't want to stay with me. I want to merge completely with another person, and this desire sometimes scares people away. <Anxious/ambivalent attachment style>

Although this instrument has been useful it has several limitations. First, because it is an ipsative measure the instrument restricts the kinds of statistics that can be used. For example, it is not meaningful to correlate scores on the instrument with scores on other variables. Second, the one-item measurement of each attachment style precludes calculation of indices of internal consistency (e.g., Cronbach's alpha). This reduces the ease of estimating the reliability of scores based on the measures. Third, the Hazan and Shaver measure assumes that all individuals can be classified into one and only one category of attachment. Thus, the extent to which the chosen category characterizes respondents is ignored, as are potential individual differences in profiles of attachment. Finally, because the measure pertains to love partners it is not especially useful for assessing attachment to other people or groups (e.g., friends, co-workers).

The psychometric limitations of Hazan and Shaver's instrument have led to the development of other measures. A number of researchers have asked respondents to rate, using a Likert-type scale, each of the Hazan and Shaver paragraphs on the degree to which the statements describe the respondents (Brennan et al., 1991; Hortacsu, Cesur, & Oral, 1993; Levy & Davis, 1988; Shaver and Brennan, 1992). This solves the problem of ipsative measurement but does not address the reliability issue associated with one-item measures. Other researchers have separated the Hazan and Shaver paragraphs into individual items and used Likert-type scales to score responses (Collins & Read, 1990; Mikulincer et al., 1990; Mikulincer, Florian, & Weller, 1993; Mikulincer & Nachson, 1991; Simpson, 1990; Simpson, Rholes, & Nelligan, 1992). Additional attachment style items have also been written (Bartholomew & Horowitz, 1991; Collins & Read, 1990).

The use of multi-item measures obviates many of the psychometric problems of the Hazan and Shaver instrument. However, other limitations exist with respect to the newer measures. For instance, Mikulincer and his colleagues (1990) used principal components analysis to develop their multi-item scales. This technique assumes that the measures are completely free of measurement error (Morrison, 1990), an assumption that seems questionable given the possible biases associated with responses to questionnaires (Schmitt & Klimoski, 1991). Further, a number of the multi-item measures have had alpha coefficients in the .50 to .75 range (Collins & Read, 1990; Mikulincer & Nachshon, 1991; Simpson, 1990; Simpson et al., 1992); this indicates rather low internal consistency.

In addition, the development of the newer measures has relied exclusively upon exploratory factor analysis. Although exploratory factor analysis is a reasonable first step in the development of measures, the technique places no constraints on the loadings of items on factors and is, therefore, largely atheoretical (Long, 1983). A final limitation of the newer measures is that they, like the Hazan and Shaver instrument, focus on the attachment to love partners. Hence, these measures are less useful to researchers interested in non-romantic attachments.

The purpose of Study 1 is to overcome the limitations just discussed. The primary goal is to develop multi-item measures of secure, fearful, and preoccupied attachment styles that produce internally consistent scale scores and that are useful for assessing romantic and non-romantic attachments. Toward this aim, Study 1A, described below, was conducted to develop measures, explore their underlying factor structure, and examine the convergence between scores on the new measures and scores on a previously developed instrument. Study 1B was undertaken to confirm the factor structure underlying the new measures and to examine relationships between scale scores and scores on Goldberg's (1992) measure of the Big Five personality characteristics. These characteristics include neuroticism (proneness to experience unpleasant and disturbing emotions; sometimes referred to as emotional stability), extraversion (differences in preferences for social interaction and lively activity), openness to experience (receptiveness to new ideas and experiences; sometimes call intellect), agreeableness (selfless concern for others and trusting, generous sentiments), and conscientiousness (differences in organization and achievement). The Big Five were included in this study because previous research has established a theoretical and empirical link between attachment styles and the Big Five (Shaver & Brennan, 1992). Hence, demonstrating that the new scales are related to the Big Five in ways similar to that of other measures of attachment styles would provide further evidence of the validity of the new scales.

Study 1A

Method

Subjects and procedures. Questionnaires were sent to all 1803 members of the graduating class of May, 1993, of Washington State University. This questionnaire asked respondents for demographic information and assessed respondents with respect to attachment styles and a number of other variables not relevant to the current study. Following three follow-up mailings, 1217 usable questionnaires (67.5%) were returned via regular mail. Due to listwise deletion of missing values, the questionnaires of 1181 respondents were used in the analyses. Respondents ranged in age from 21 to 60 with a median of 24 years; 55.1% of the respondents were female. Regarding ethnicity, 85.5% of respondents were Caucasian, 2.0% Hispanic, and 4.2% Asian; less than 2.0% classified themselves as Black or Native American. Undergraduate degrees were received by 93.8% of respondents, while 5.1% received professional degrees and 1.1% received other graduate degrees. At the time surveys were received, 61.3% of respondents were employed full-time and 15.3% were employed part-time; 1.7% were self-employed and 16.7% were unemployed.

Item development. To develop measures of attachment styles, items developed by Hazan and Shaver (1987), Bartholomew and Horowitz (1991), and Collins and Read (1990) were examined. Following the lead of previous researchers (e.g., Mikulincer et al., 1990; Mikulincer & Nachson, 1991; Simpson, et al., 1992), the Hazan and Shaver paragraphs were separated into individual items. However, because the goal was to develop measures that were not restricted to romantic relationships, Hazan and Shaver's items pertaining to "love partners" were dropped. Thus, 11 of Hazan and Shaver's items meant to assess secure, avoidant, and anxious/ambivalent attachment styles were used in this study. In addition, seven of Bartholomew and Horowitz's (1991) items meant to measure secure, fearful, and preoccupied attachment styles were included. The items intended to assess secure and fearful styles were different from those developed by Hazan and Shaver but were meant to reflect the same constructs.

Collins and Read (1990) pointed out that beliefs about whether attachment figures will be available when needed is held by Ainsworth and others (e.g., Ainsworth et al., 1978; Bartholomew, 1990) to be a primary dimension underlying differences in attachment styles. However, Collins and Read believed that the Hazan and Shaver instrument inadequately assesses this dimension. Therefore, three items designed by Collins and Read and meant to assess dependability (i.e., availability of attachment figures) were included in this study. Finally, four new items were developed, as follows. Because Bartholomew and Horowitz only developed two items to assess the preoccupied attachment style, and because scores from such brief scales are often unreliable (Schmitt & Klimoski, 1991), two new items were written to further assess the preoccupied style. Two other items were written to evaluate the extent to which respondents are confident that others will accept them as they are and are unworried about others letting them down. These items are consistent with the definition of secure attachment offered by Bartholomew and Horowitz (1991) but have not been included in prior research.

Overall, 25 items were included in the present investigation. Responses were given on a scale from 1 = "strongly disagree" to 7 = "strongly agree;" a "don't know" option was also available. The ordering of the items in the questionnaire was randomly determined. All items are included in Table 1. This table also indicates who developed the items and which attachment style the items were originally intended to measure.

Table 1
Exploratory Factor Analysis of Attachment Style Items

Item	Factors		
	1	2	3
1. I am relatively confident that other people will accept me as I am. <New - secure>	-.09	.00	<u>.30</u>
2. I do not worry about being alone. <B&H - secure>	-.23	.49	.54
3. I find others are reluctant to get as close as I would like. <H&S - anxious>	<u>.53</u>	.27	.08
4. I am not sure that I can always depend on others to be there when I need them. <C&R - dependable>	.16	<u>.63</u>	.03
5. Sometimes people do not want to get close to me because I want so much to be close to them. <New - preoccupied>	<u>.70</u>	.10	.05
6. I find it difficult to allow myself to depend on others. <H&S - avoidant>	-.07	<u>.64</u>	-.02
7. I want to merge completely with another person. <H&S - anxious>	<u>.43</u>	-.14	.01
8. I do not worry about having others not accept me. <B&H - secure>	-.11	.39	.50
9. I am nervous when anyone gets too close. <H&S - avoidant>	.15	-.15	<u>.59^a</u>
10. It is easy for me to get emotionally close to others. <B&H - secure>	.43	-.14	.45
11. I am uncomfortable being without close relationships, but I sometimes worry that others do not value me as much as I value them. <B&H - preoccupied>	<u>.52</u>	-.11	-.26
12. I worry that I will be hurt if I allow myself to become too close to others. <B&H - fearful>	-.23	-.08	<u>.49^a</u>
13. I want emotionally close relationships, but I find it difficult to trust others completely. <B&H - fearful>	-.17	-.25	<u>.42^a</u>

Table 1, continued

Item	Factors		
	1	2	3
14. I am comfortable depending on others. <H&S - secure>	-.21	<u>.49</u>	-.15 ^a
15. I often want to get closer to others than they want to get to me. <New - preoccupied>	<u>.76</u>	-.03	-.02
16. People are never there when you need them. <C&R - dependability>	.18	<u>.63</u>	.01
17. I know that others will be there when I need them. <C&R - dependability>	.05	<u>.65</u>	-.03 ^a
18. I find it difficult to trust others completely. <H&S - avoidant>	.04	<u>.51</u>	-.27
19. I do not often worry about someone getting too close to me. <H&S - secure>	.10	.07	<u>.59</u>
20. I do not often worry about other people letting me down. <New - secure>	-.06	-.03	<u>.54</u>
21. I want to be completely emotionally intimate with others, but I often find that others are reluctant to get as close as I would like. <B&H - preoccupied>	<u>.75</u>	.02	.01
22. I do not often worry about being abandoned. <H&S - secure>	-.16	.21	<u>.51</u>
23. I find it relatively easy to get close to others. <H&S - secure>	.19	-.08	<u>.62</u>
24. My desire to merge sometimes scares people away. <H&S - anxious>	<u>.67</u>	.06	.02
25. I am somewhat uncomfortable being close to others. <H&S - avoidant>	.11	-.17	<u>.54</u> ^a

Note. "New" represents items written by the authors, "H&S" represents items written by Hazan and Shaver (1987), "B&H" represents items written by Bartholomew and Horowitz (1991), and "C&R" represents items written by Collins and Read (1990). Factor 1 represents the preoccupied attachment style, Factor 2 the fearful style, and Factor 3 the secure style.

^a These items were reverse-scored.

Bartholomew and Horowitz's instrument. To determine convergence of scores from the newly developed measures of secure, fearful, and preoccupied attachment styles with scores from a previously validated instrument, the Bartholomew and Horowitz (1991) paragraphs were also included in the questionnaire. These paragraphs are:

Secure. It is easy for me to become emotionally close to others. I am comfortable depending on others and having others depend on me. I don't worry about being alone or having others not accept me.

Fearful. I am uncomfortable getting close to others. I want emotionally close relationships, but I find it difficult to trust others completely, or to depend on them. I worry that I will be hurt if I allow myself to become too close to others.

Preoccupied. I want to be completely emotionally intimate with others, but I often find that others are reluctant to get as close as I would like. I am uncomfortable being without close relationships, but I sometimes worry that others don't value me as much as I value them.

In order to allow correlations among the measures, the Likert-type scoring method utilized by previous researchers (Brennan et al., 1991; Duggan & Brennan, 1994; Horowitz, Rosenberg, & Bartholomew, 1993) was used. Respondents were asked to indicate the degree to which each paragraph was characteristic of them, using a scale from 1 = "not at all characteristic of me" to 7 = "very characteristic of me."

Statistical procedures. To explore the factor structure of the 25 attachment style items, principal axis factoring with squared multiple correlations as communality estimates was used to fit the common factor model to the data. An exploratory rather than confirmatory approach was selected because items from a number of sources, along with several new items, were analyzed together; thus the number of factors, factor intercorrelations, and item characteristics could not be predicated upon past research. The final number of factors was based on an examination of the scree plot and differences among eigenvalues. These factors were obliquely rotated to a Harris-Kaiser orthoblique independent cluster solution.

Results

Exploratory factor analysis. Based on the factor analysis of the 25 items, three factors were retained. Table 1 shows the rotated factor loadings for each item. The Bartholomew and Horowitz items intended to measure the preoccupied attachment style, along with the new items meant to assess the preoccupied style, all loaded on Factor 1. In addition, three of the Hazan and Shaver items originally intended to measure the anxious/ambivalent style loaded on this factor. These three items are consistent with a preoccupied style in that they reflect an intense desire to merge with another person and a concern that others are reluctant to get as close as the individual would like. Hence, Factor 1 was labeled the Preoccupied Attachment Style.

The Collins and Read items intended to measure dependability all loaded on Factor 2. In addition, two items developed by Hazan and Shaver and meant to measure the avoidant attachment style loaded on this factor; these items assess difficulties in depending upon and trusting others. Finally, one Hazan and Shaver item originally intended to measure the secure attachment style loaded negatively (before reverse scoring) on this factor; this item would be disagreed with by respondents who are not comfortable depending on others. Thus, items loading heavily on Factor 2 reflected a fear that other people cannot be trusted and cannot be depended upon to be available when needed. This factor was labeled the Fearful Attachment Style.

Three items intended by Hazan and Shaver to measure the secure attachment style, along with the two new items meant to measure the secure style, loaded on Factor 3. Two items originally intended by Hazan and Shaver to measure the avoidant attachment style loaded negatively (before reverse scoring) on this factor, and one item meant by Bartholomew and Horowitz to assess the fearful style loaded negatively (before reverse scoring) on the factor. Thus, items loading heavily on Factor 3 reflected confidence that other people are accepting and will not let one down and a lack of concern that people will get too close. Respondents scoring

high on this factor disagreed that they get nervous when people get too close, that they find it difficult to trust others, and that they are uncomfortable being close to others, and agreed that they do not worry about being abandoned and find it relatively easy to get close to others. Factor 3 was labeled the Secure Attachment Style.

Scale creation. In selecting items for scales, the recommendations of Ford, MacCallum, and Tait (1986) were followed. These authors advised against arbitrary decision rules (e.g., selecting loadings greater than .30) and, instead, called for an examination of the pattern of high and low loadings across factors. Rather than applying heuristics mechanically, Ford et al. (1986) suggested tempering the process with knowledge of the variables and professional judgment. Thus, scales developed in this study were created based upon items loading relatively higher on the factor of interest and relatively lower on other factors. This approach was also strongly endorsed by Cattell (1957).

Items 2, 8, and 10 had high loadings (approximately .40 or greater) on more than one factor and, therefore, were not considered further. Items 3, 5, 7, 11, 15, 21, and 24 all loaded highly (minimum of .43) on the Preoccupied Style and less highly (maximum of .27) on the other factors. Hence, these items were considered for inclusion on a scale measuring the preoccupied style. Because item 7 did not contribute to the internal consistency of scores on the scale (i.e., Cronbach's alpha was not increased by including this item), it was dropped. Scores on the final six-item preoccupied scale had a mean of 2.88, standard deviation of 1.02, and alpha of .84.

Items 4, 6, 14, 16, 17, and 18 all loaded highly (minimum of .49) on the Fearful Style and less highly (maximum absolute value of .27) on the other factors. Thus, these items were included on a scale measuring the fearful style (all items contributed to the internal consistency of scores from this scale). Scores on this six-item scale had a mean of 3.50, standard deviation of 1.04, and alpha of .81. Items 1, 9, 12, 13, 19, 20, 22, 23, and 25 all loaded highly (minimum of .30) on the Secure Style and less highly (maximum absolute value of .25) on the other factors. Item 1 had a relatively low loading (.30, compared to the next lowest loading of .42) on the factor and **reduced the internal consistency of scores on the scale, so was dropped.** Item 22 also did not contribute to the internal consistency of scores and was, therefore, dropped. Scores on the final seven-item scale had a mean of 4.84, standard deviation of 0.98, and alpha of .80. Scale scores were created by summing across items. "Don't know" responses were treated as missing data.

Convergence with the Bartholomew and Horowitz instrument. Table 2 contains the correlations among scores on all of the attachment style measures, including the three new scales and the Bartholomew and Horowitz measures. Convergent validity is evident in that there are substantial positive correlations between scores from the new scales and scores from the corresponding Bartholomew and Horowitz measures. Specifically, scores from the two methods of assessing the secure attachment style were highly correlated, $r = .49$, as were scores based on the measures of the fearful style, $r = .52$, and those based on the preoccupied style measures, $r = .63$.

Scores on the new preoccupied style scale correlate only modestly with scores on the Bartholomew and Horowitz's measure of secure attachment, $r = -.17$, and moderately with scores on their measure of fearful attachment, $r = .34$. Scores on Bartholomew and Horowitz's measure of preoccupied attachment correlate only modestly with scores on the new secure style scale, $r = -.24$, and scores on the new fearful style scale, $r = .14$. However, there are relationships of substantial magnitude between scores on the other new scales and scores on the non-corresponding Bartholomew and Horowitz measures. Scores on the new secure style scale correlate highly with scores on Bartholomew and Horowitz's measure of fearful attachment, $r = -.66$, and scores on the new fearful style scale correlate moderately highly with scores on the Bartholomew and Horowitz's measure of secure attachment, $r = -.47$. These findings, coupled with the high correlation between scores on the new secure and fearful attachment scales, $r = -.63$, raises a concern that the secure and fearful attachment styles may be better conceptualized as a single dimension of attachment rather than two separate factors.

Table 2
Correlations among Attachment Style Measures

	1	2	3	4	5	6
Secure - new (1)	.					
Fearful - new (2)	-.63	.				
Preoccupied - new (3)	-.41	.30	.			
Secure - B&H (4)	.49	-.47	-.17	.		
Fearful - B&H (5)	-.66	.52	.34	-.44	.	
Preoccupied - B&H (6)	-.24	.14	.63	-.13	.29	.

Note. N = 1181. "New" represents scales developed in this study.
"B&H" represents measures developed by Bartholomew and Horowitz (1991).

Study 1B

To determine whether scores on the new attachment style scales are related to scores on other variables in theoretically meaningful ways, study 1B involved correlating scores on the scales with scores on the Big Five personality traits. As discussed earlier, the Big Five were included in this study because prior work has linked earlier measures of attachment styles and the Big Five (Shaver & Brennan, 1992). Thus, demonstrating that the scores on the new scales are similarly correlated with scores on the Big Five would further support the validity of scores produced by the new scales.

Method

Subjects and procedures. Questionnaires were sent to all 1080 undergraduate members of the graduating class of Summer, 1993, of Ohio State University. The questionnaires asked respondents for demographic information and assessed respondents with respect to attachment styles, the Big Five personality traits, and several variables not relevant to the current study. Following three follow-up mailings, 600 usable questionnaires (55.6%) were returned via regular mail. Due to listwise deletion of missing values, questionnaires of 545 respondents were included in the analyses. Respondents ranged in age from 21 to 59 with a median of 23 years; 56.5% were female. Regarding ethnicity, 90.7% of respondents were Caucasian, 4.0% Black, and 3.3% Asian; less than 2.0% classified themselves as Hispanic or Native American. At the time surveys were received, 59.5% of respondents were employed full-time and 18.8% were employed part-time; 1.8% were self-employed and 11.7% were unemployed.

Measure of attachment styles. The new versions of the secure, fearful, and preoccupied attachment styles developed in study 1 were used in study 2. Scores produced by the secure attachment scale had a mean of 4.83, standard deviation of 1.00, and alpha of .81. Scores on the fearful attachment scale had a mean of 3.57, standard deviation of 1.07, and alpha of .80. Scores on the preoccupied attachment scale had a mean of 3.01, standard deviation of 1.16, and alpha of .82.

Measure of the Big Five. Goldberg (1992) used the term "Big Five" in referring to neuroticism, extraversion, openness to experience, agreeableness, and conscientiousness. Goldberg's instrument is among the most widely used measures of the Big Five, and is considerably shorter than alternative measures. For these reasons, a reduced version of Goldberg's measure was used in the current study. The original instrument contains 20 items per dimension. Due to space limitations, 10 items with the highest loadings for each

dimension (as reported by Goldberg) were used in this study. Subjects were asked how accurately each of the traits described them. Responses were given on a scale from 1 = "extremely inaccurate" to 9 = "extremely accurate." Consistent with Goldberg's framework, an exploratory factor analysis of the 50 items supported a five-factor solution. Scales scores were created by summing across the corresponding items. Cronbach's alpha for the scale scores were: neuroticism (.77), extraversion (.91), openness to experience (.81), agreeableness (.87), and conscientiousness (.88).

Statistical procedures. Confirmatory factor analysis using the LISREL VII program (Joreskog & Sorbom, 1989) was used to confirm the factor structure of the new attachment style scales. Three models were used in this analysis. First, a three-factor solution was run using the values from the exploratory factor analysis in study 1 as the starting values (for free parameters) and fixed values (for fixed parameters). Attachment items were constrained to load on the corresponding factors. The purpose of this analysis was to examine the goodness-of-fit of the three-factor solution. Second, because study 1 revealed a relatively high correlation between the secure and fearful attachment styles, a two-factor solution was run with the secure and fearful attachment items constrained to load on the same factor. The purposes of this analysis was to examine the goodness-of-fit of the two-factor solution and to allow comparison between the three-factor and two-factor solutions. If the two-factor solution fits as well as the three-factor solution, the principle of parsimony would suggest accepting the two-factor model. Third, a null model was run in order to allow calculation of two fit indices not provided by the LISREL output.

Because of the problems related to interpreting chi-square values (Bentler & Bonett, 1980), these values were not used as a criteria for evaluating the fit of individual models. Instead, the root mean square residual (RMSR) (which is provided by LISREL), the relative non-centrality index (RNCI), and the Tucker-Lewis index (TLI) (which are not provided by LISREL) were calculated. Evidence suggests that these measures of fit are unbiased and relatively independent of sample size (Bentler, 1990; Goffin, 1993; McDonald & Marsh, 1990). Also, to provide a rigorous test of the relative fit of the two- and three-factor models, a chi-square difference test was conducted; this was possible because the two-factor model is nested within the three-factor model.

Results

Confirmatory factor analyses. Table 3 reports the results of the confirmatory factor analyses. The three-factor solution, differentiating among the secure, fearful, and preoccupied attachment styles, fits the data quite well. The RMSR is low (.05) and the TLI and RNCI are reasonably high (in the high .80s). Scores from the secure attachment style scale were highly correlated with scores from the fearful attachment style scale, $r = -.60$, and were moderately correlated with scores from the preoccupied style scale, $r = -.37$; scores on the preoccupied and fearful style scales were modestly correlated, $r = .24$.

The two-factor solution, combining the secure and fearful attachment items onto one factor, did not fit the data particularly well. This is especially clear for the TLI and RNCI, which fall in the high .70s - low .80s range. More importantly, the test of significance of the difference of fit between the two-factor and three-factor models clearly indicates that the three-factor model fits better, $\chi^2_{diff}(2, N = 545) = 244.85, p < .001$.

In summary, this analysis confirms the underlying factor structure of the new attachment style measures. The items loaded on the factors as expected, although scores from the secure and fearful attachment styles are highly correlated.

Attachment styles and the Big Five. Table 4 reports the correlations between scores on the attachment style measures and scores on the Big Five personality traits for both the Shaver and Brennan (1992) study and the current study. Shaver and Brennan (1992) used the Hazan and Shaver (1987) terminology (i.e., avoidant and anxious/ambivalent attachment styles) and the single-item Hazan and Shaver Likert-style format, while this study used the Bartholomew and Horowitz (1991) terminology (i.e., fearful and preoccupied attachment styles)

Table 3
Confirmatory Factor Analysis of Attachment Style Items

Model	χ^2	df	Goodness of Fit Measures			χ^2_{diff}
			RMSR	TLI	RNCI	
Three factors	571.70	149	.05	.87	.88	
Two factors	816.55	151	.07	.79	.81	244.85 *
Null	3816.54	171	---	---	---	

Note. N = 545. RMSR = root mean square residual, TLI = Tucker-Lewis index, RNCI = relative non-centrality index.

* $p < .001$

Table 4
Correlations between Attachment Styles and the Big Five

Attachment Style	The Big Five									
	Neuroticism		Extraversion		Openness		Agreeableness		Conscientiousness	
	S&B	Current	S&B	Current	S&B	Current	S&B	Current	S&B	Current
Secure	.39	.26	.32	.28	.01	.07	.30	.26	.13	.18
Fearful	-.23	-.19	-.23	-.26	-.05	-.02	-.29	-.27	-.13	-.14
Preoccupied	-.33	-.27	-.12	-.16	.03	-.12	-.13	.00	-.09	-.04

Note. S&B = Shaver and Brennan (1992).

and the new measures. A cursory review of these correlations reveals considerable similarity in the magnitude and direction of relationships across the two studies. For example, scores on the secure style correlated moderately and positively with scores on neuroticism in both studies, while scores on the fearful style were moderately and negatively correlated with scores on neuroticism in both studies. To determine more rigorously the similarity of findings across the two studies, the correlation of the 15 pairs of correlations was calculated. This correlation was very high, $r = .95$, indicating a strong similarity in the relationship between scores on attachment styles and scores on the Big Five in study 2 and the Shaver and Brennan study.

Discussion

The two studies (1A and 1B) reported here met the original objectives of the research. Multi-item measures of the secure, fearful, and preoccupied attachment styles were developed and scores from each demonstrated acceptable levels of internal consistency (alpha equal to .80 or greater). Because items pertaining to romantic partners were deleted, the measures should be germane to a broad array of contexts, romantic and non-romantic. In contrast to prior investigations, study 1A allowed for error of measurement by utilizing principal axis factoring rather than principle components analysis. This study also demonstrated convergent validity between the new scales and the measure previously developed by Bartholomew and Horowitz (1991). Study 1B was the first study to examine the factor structure of attachment style measures using confirmatory factor analysis; this study supported the distinctions between the secure, fearful, and preoccupied attachment styles and cross-validated the factor structure unearthed in study 1A.

Study 1B also demonstrated that scores on the new measures correlated with scores on other variables (the Big Five personality traits) in a manner similar to that of other measures of attachment styles. This provides additional evidence for the validity of the new measures. Future research should continue to investigate the validity of these attachment style instruments by examining the associations between scores on the measures and scores on other variables (e.g., satisfaction with interpersonal relationships) and by conducting multitrait-multimethod analyses. Only after such research has been completed can researchers have full confidence that the scales are measuring what they are supposed to measure and that it is meaningful to distinguish among all three attachment styles.

Study 2: Personality Factors and Job Attitudes

Interest in the relationship between personality and job attitudes has waxed and waned over the years. Early work (e.g., Fisher & Hanna, 1931) emphasized a dispositional approach to job satisfaction. During the 1960's and 1970's, however, the focus shifted to **situational determinants of attitudes in organizations**. The dominant models of job satisfaction and other job attitudes emphasized the effects of variables outside of the individual, such as task characteristics, reward systems, organizational structure, participation in decision making, and so forth. Research on personality and organizational behavior waned, as many authors concluded that few useful relationships had been found (e.g., Weiss & Adler, 1984).

Beginning in the mid-1980's research on a dispositional approach to job attitudes came back into fashion. Staw and associates (Staw & Ross, 1985; Staw, Bell & Clausen, 1986) were among the first to demonstrate that job satisfaction may be stable over time, and can be predicted by affective disposition. Arvey, Bouchard, Segal and Abraham (1989) presented evidence for a genetic basis of some of the variance in job satisfaction. Although methodological and theoretical criticisms have been raised (e.g., Cropanzano & James, 1990; Davis-Blake & Pfeffer, 1989; Gerhart, 1987), a number of researchers have pursued dispositional effects, providing evidence that affectivity is significantly related to job satisfaction (e.g., Judge & Hulin, 1993; Levin & Stokes, 1989; Staw, Bell & Clausen, 1986). Study 2 begins with two basic points concerning the dispositional approach to job attitudes: a) job attitudes are more than satisfaction, and b) dispositions are more than affectivity.

Job Satisfaction and Job Attitudes

When discussing personality and job attitudes, many authors seem to equate job satisfaction and job attitudes. For example, in a recent review of the effects of personality on organizational behavior, George (1992) includes a section entitled "Personality, Job Attitudes, and Affective States at Work". However, the term "job satisfaction" is quickly substituted for "job attitudes", and no other attitudes (such as job involvement, organizational commitment, or work centrality) are mentioned. As another example, Staw and Barsade (1993) take a slightly different approach to the relationship between job attitudes and job satisfaction. They recognize that the general construct of attitudes has generally included cognitive, affective and behavioral components. However, they argue that these three components should be kept separate and that the term "attitudes" should

primarily refer to the affective component. They further argue that if job attitudes are equated with affective states, then research should include a broader array of affective reactions at work, such as anger or fear.

We agree that researchers should broaden their definition of affective reactions at work, but we do not agree that job attitudes should be limited to affective states. Work-relevant attitudes which are more cognitive in nature include constructs such as organizational commitment, job involvement, work centrality and workaholism. Conclusions about the antecedents and consequences of the affective component of job attitudes (e.g., job satisfaction, mood states) will not necessarily apply to other job attitudes.

Personality and Job Satisfaction

If job attitudes are reduced to job satisfaction, it is logical to focus on affectivity when taking a dispositional approach. A series of authors since the mid-1980's (e.g., George, 1992; Levin & Stokes, 1989; Staw, Bell & Clausen, 1986) have argued that the personality traits which are the key dispositional determinants of job satisfaction are positive and negative affectivity, and the conclusions from a number of empirical studies support a dispositional approach to job satisfaction based on affectivity. We accept this conclusion. Given the usual definition of job satisfaction (one's affective reaction to various aspects of the job; Locke, 1976), affectivity is a natural candidate for a personality trait underlying job satisfaction. However, we question the apparent focus on affectivity to the exclusion of other personality correlates of job satisfaction. For example, researchers (e.g., Barrick & Mount, 1991) have recently argued that the "Big Five" is useful in predicting and understanding behavior in organizations. It is quite possible that this rather comprehensive approach to trait-descriptor models of personality might add to affectivity in predicting job satisfaction and other attitudes. For example, there are several studies demonstrating a relationship between extraversion and job satisfaction (e.g., Furnham & Zacherl, 1986; Mohan & Bali, 1988; Sah & Ojha, 1988). Although these studies were not done within the framework of the Big Five, Extraversion is one of the factors in that taxonomy.

Personality and Other Job Attitudes

Turning to job attitudes other than satisfaction, affectivity may be of little or no importance to attitudes such as organizational commitment, job involvement, and so forth. Many job attitudes are more cognitive in nature than is satisfaction, and the dispositions or tendencies which underlie cognitively-oriented job attitudes are not likely to be affective in nature. For example, if satisfaction is about affect, commitment may be about attachment. As will be argued below, attachment styles (e.g., Bartholomew & Horowitz, 1991) can be logically linked with commitment to certain foci in organizations. As another example, work centrality, the belief that work has a place of importance in one's life, may be affected by the individual's needs and motives, such as achievement motive or growth need strength.

In summary, we are arguing that job attitudes are more than satisfaction, and that the personality traits important to broader conceptualizations of job attitudes will go beyond affectivity. We are also arguing that the personality correlates of job satisfaction cannot be reduced to affectivity.

The Current Study

The antecedents of commitment examined in Study 2 include three sets of personality variables: need strength, the Big Five and attachment styles. These variables are not a representative sample of all aspects of personality. However, they do represent a fairly wide array of personality variables. In addition to measuring organizational commitment in the second survey, we included measures of five other job and work attitudes: job satisfaction, job involvement, work centrality, workaholism and the perceived interplay between work and interpersonal relationships. These measures were included to provide a more complete picture of the job attitudes of the participants. We had explicit, a priori hypotheses concerning the relationship between our three personality measures and both job satisfaction and organizational commitment. However, we did not develop detailed a priori hypotheses concerning all of the other job attitudes included in the second survey. In the

sections that follow, we present hypotheses concerning satisfaction and commitment, and a few general expectations for the other job attitudes. However, the global hypothesis to be tested is that need strength, the Big Five and attachment styles, measured at one point in time, will be significant predictors of a variety of job attitudes measured at a later time.

Hypotheses

Job Satisfaction

Negative affectivity, Extraversion and satisfaction. Consistent with the literature cited above, we hypothesize that negative affectivity will predict job satisfaction measured six months later. The measure of negative affectivity used here is the emotional stability scale from the Big Five (Goldberg, 1992). Emotional stability, the tendency to be relaxed, unemotional, and imperturbable, has been conceptually and empirically equated with low negative affectivity. In a review of various Big Five and related personality instruments, John (1990: 86) concludes that negative affectivity, as conceptualized and assessed by Watson, Clark & Tellegen (1988), is "indistinguishable from the traits representing low Emotional Stability". Others (e.g., Watson & Clark, 1984; Whitley & Gridley, 1993) even use the label "negative affectivity" to refer to Factor IV of the Big Five.

We hypothesize that other, non-affective personality dimensions will predict job satisfaction. As mentioned above, Extraversion, defined as the tendency to be talkative, assertive, and verbal, has been found to be related to job satisfaction (e.g., Furnham & Zacherl, 1986; Mohan & Bali, 1988; Sah & Ojha, 1988). The rationale here is that those who are outgoing, assertive and daring are somewhat more likely to find or create rewarding interpersonal relationships and positive task experiences, as compared with those who are withdrawn, inhibited and unadventurous. Accordingly, we hypothesize that Extraversion predicts job satisfaction, even when controlling for emotional stability (i.e., negative affectivity).

Needs and satisfaction. With regard to needs and satisfaction, the most common prediction is that there is an interaction between need state and the situation. That is, satisfaction depends on a combination of needs and the opportunity to satisfy those needs. The well-studied interaction between growth need strength and job characteristics is a good example of the person-by-situation hypothesis. As we did not attempt to measure job characteristics or any other situational variables, the interaction between need state and the situation cannot be assessed in our study. However, several prior authors have explored the direct relationship between need state and satisfaction. For example, Mathieu and Hamel (1989) predicted and found strong correlations between growth need strength and job satisfaction in samples of both professional and non-professional employees from three different organizations. Furthermore, they predicted and found, via path analysis, a direct effect of GNS on job satisfaction. Accordingly, we hypothesize that growth need strength predicts job satisfaction.

Attachment styles and satisfaction. As discussed in study 1, attachment theory holds that styles of attachment are developed in childhood, but affect the nature of adult attachments to others (e.g., Ainsworth, 1989). Through interactions with caregivers, the child develops internal working models of the self (worthy of love or not) and of the other (positive versus negative). By crossing these two dimensions, Bartholomew and Horowitz (1991) identify four attachment styles that are presumed to be relatively stable throughout adulthood. Those with a positive model of the self and the other have a secure style and are comfortable with both intimacy and autonomy. A preoccupied style is the result of a positive view of others, but a negative view of the self. This combination leads to striving for the acceptance of valued others as a way of obtaining self-acceptance. Adults with a fearful style view both themselves and others negatively, and are afraid of intimacy because they expect to be rejected by others. Finally, people with a dismissing style have a positive self-image, but a negative view of others. These people attempt to protect themselves from disappointment by avoiding personal relationships and maintaining an image of independence and invulnerability. (Because of space limitations on the survey, the dismissing style, which we see as less predictive of job attitudes than the other styles, was not measured.)

Although the original goal was to measure three of the four attachment styles as possible predictors of commitment, hypotheses can be offered for job satisfaction. We hypothesize that the three attachment styles measured here will predict satisfaction, even with negative affectivity controlled, with secure having a positive weight and preoccupied and fearful having negative weights. Those who are secure have a positive sense of self-worth and a positive view of others, are more likely to find and create positive work experiences, and will expect and receive positive intrinsic and extrinsic rewards. Turning the argument around, the more negative the view of oneself (low score on the preoccupied and fearful styles), the lower one's job satisfaction.

Commitment in Organizations: Bases and Foci

As per our introduction to this report, commitment is conceptualized as a multidimensional construct, with foci and bases of commitment as the relevant dimensions. Foci of commitment are the individuals and groups to whom an employee is attached (Reichers, 1985). Research has demonstrated that employees can be committed to multiple foci, including professions, unions, supervisors, coworkers, top managers and customers, as well as the overall organization. Bases of commitment are conceptualized using Kelman's (1958) typology of motivational processes that explain why attitudes and behavior are adopted: to obtain rewards or avoid punishments (compliance), to be associated with a desirable other (identification), or because the content of the attitude or behavior is congruent with the individual's value system (internalization). Recent research has demonstrated that these bases can be separated and are differentially related to various outcomes (e.g., Becker & Billings, 1993; Caldwell, Chatman & O'Reilly, 1990; O'Reilly & Chatman, 1986).

Commitment and need strength. Alderfer's (1969) three need-types map directly onto the bases of commitment. Because they are concerned with obtaining basic rewards and avoiding the loss of basic requirements for survival, individuals with high existence needs are likely to base their commitment on compliance. The basis of commitment for those high in relatedness needs is likely to be identification; the need for meaningful interpersonal relationships can be most directly satisfied by developing self-defining relationships with other people or groups. Finally, the basis of commitment for employees with high growth needs is likely to be internalization. Developing one's full potential involves setting personally fulfilling goals and striving to meet them, and movement towards growth can be facilitated by commitment to others with similar goals.

Commitment and the Big Five. Compliance, as a basis of commitment, implies actions based on perceived rewards. This is contrary to the Big Five factor of conscientiousness, which implies being inner-directed and not instrumental. This leads us to hypothesize that conscientiousness will predict compliance, but with a negative weight. The commitment bases of identification and, to some extent, internalization, imply interpersonal attachments. Accordingly, we hypothesize that extraversion and agreeableness, the two Big Five factors which have an interpersonal orientation, will predict these two bases of commitment. Both types are likely to form attachments quite easily, as the extravert, being outgoing, will build interpersonal relationships, and the person high in agreeableness is warm, kind and trustful.

Commitment and attachment styles. Following from the earlier discussion of the meaning of the different attachment styles, we hypothesize that these styles predict the bases of commitment. First, those with a secure style will base their commitments on internalization. Given their strong sense of self-worth and a positive view of others, they expect others to be responsive to their work-related goals and values. They do not fear rejection, and are free to allocate their commitment to foci who have similar values. Second, the basis of commitment for those who have a preoccupied style is likely to be identification. Because they require the acceptance of others in order to define themselves, they put a premium on identifying with others and establishing "belongingness" in a group. Third, employees with a fearful style are likely to be compliers. Their fear of intimacy and negative self-image leads them to seek tangible, material rewards. They avoid punishment because such sanctions would serve to lower their opinion of themselves even further.

Job Involvement, Work Centrality and Workaholism

We have argued that job satisfaction is primarily related to affectivity, and that the basis of commitment is related to attachment styles and to needs. Our general expectation for job involvement, work centrality and workaholism is that two personality factors are likely to be predictive: growth need strength and Conscientiousness. Job involvement means being engaged in the specific tasks that make up one's job, work centrality means seeing work as a central part of one's life, and workaholism is defined as an inner compulsion to work. All three would follow from high growth needs, which are satisfied by engaging in problems that require using and developing one's capabilities. Conscientiousness, defined as the tendency to be organized and thorough, would also be expected to be related to these "work oriented" job attitudes.

Work and Others

Hazan and Shaver (1990) examined the relationship between attachment styles and job attitudes. They created seven job attitude scales dealing with the perception of the relation between work and interpersonal relationships, three of which we have included here. These scales, described in the methods section, assess believing that one should keep busy (even at the expense of relationships), believing that work interferes with or can substitute for relationships, and preferring to work alone. There are four obvious candidates for predictors of job attitudes involving work and relationships: attachment styles, relatedness need strength, and the two Big Five dimensions which involve social relationships, Extraversion and Agreeableness.

Method

Subjects and Procedures

The initial sample included all bachelor-level, Summer, 1993, graduates of The Ohio State University (i.e., the same sample as in study 1B). A complete list of names ($n = 1080$) and addresses was obtained from the university registrar's office. Two different questionnaires were mailed to potential participants, six months apart. The Time 1 survey contained, among other things, all of the personality measures described below. The Time 2 survey included the job attitude measures. Each survey consisted of four mailings: an initial mailing, a postcard reminder (approximately one week later), a second reminder letter with a copy of the survey (approximately four weeks after the first mailing), and a third reminder letter and copy of survey sent by certified mail (approximately twelve weeks after the initial mailing).

The first mailing of the Time 1 survey went out to 1080 graduates on November 1, 1993, about two months after graduation, and fifty-two were returned because the addresses were incorrect, leaving a potential sample of 1028. Six hundred people sent back useable Time 1 surveys, for a return rate of 58.4%. On June 21, 1994, the initial mailing of the Time 2 survey was sent to the respondents from Time 1, and thirty-seven were returned due to incorrect addresses, for a potential Time 2 sample of 563. Of these, 394 (70.0%) responded. However, forty-nine reported that they were unemployed, leaving a final useable sample of 345 recent graduates.

Measures

Need strength. The strength of three need clusters was assessed using an instrument developed by Alderfer (1972). The three scales are Existence Need Strength (five items, $\alpha = .77$), Relatedness Need Strength (ten items, $\alpha = .84$) and Growth Need Strength (eleven items, $\alpha = .82$). Note that these alphas and all of those reported below are from the current research.

Big Five. A reduced version of Goldberg's (1992) measure of the Big Five was used. The original instrument contains twenty items per dimension. Due to space limitations, we selected the ten items with the highest loadings for each dimension, as reported by Goldberg (1992: 34). The five scales and the inter-item

reliabilities are: extraversion (.91), agreeableness (.87), conscientiousness (.88), emotional stability (.77) and intellect (.81).

Attachment styles. As in study 1, a revised version of Bartholomew and Horowitz's (1991) measure of attachment styles was used to assess three of the four attachment styles: secure (nine items, $\alpha = .74$), preoccupied (seven items, $\alpha = .84$) and fearful (six items, $\alpha = .83$).

Job satisfaction. The General Job Satisfaction measure (Hackman & Oldham, 1975) was used to assess overall satisfaction with the job. It contains five items, and resulted in an α of .87.

Organizational commitment. Bases and foci of commitment were assessed using the instrument developed by Becker (1992; Becker & Billings, 1993). As the subjects in the study held jobs in a wide variety of organizations, four generic foci were used: coworkers, supervisors, top management and the organization. Commitment based on compliance, identification and internalization were assessed for each of these four foci. Based on the results of a factor analysis, the twelve a priori scales were reduced to five scales: Compliance (across all four foci; sixteen items, $\alpha = .80$), and identification and internalization combined (thirteen items each) for each of the foci: coworkers ($\alpha = .89$), supervisor (.92), top management (.94) and organization (.95).

Job involvement. Job involvement-role, defined as the degree to which one is engaged in the specific tasks that make up one's job, was assessed by the instrument developed by Paullay, Alliger & Stone-Romero (1994). This scale contains thirteen items and resulted in an α of .87.

Work centrality. A twelve-item scale (Paullay et al., 1994), was used to assess work centrality, defined as the belief regarding the degree of importance that work plays in one's life. The α for this scale is .82.

Workaholism. Three sub-scales of Spence and Robbins' (1992) workaholism measure were used. The driven sub-scale (seven items, $\alpha = .67$) assesses the inner compulsion to work and includes items such as "I often feel that there's something inside me that drives me to work hard" and "I feel guilty when I take time off work." Joy in work (ten items, $\alpha = .90$) measures the intrinsic enjoyment of the work itself, and includes items such as "My job is more like fun than work" and "I lose track of time when I'm engaged on a project." Time commitment to job (seven items, $\alpha = .77$) is defined by its name and includes items such as "I devote more time to my work than most people" and "I frequently work until I'm too tired to work more."

Work and others. Three scales, dealing with the perception of the relationship between work and interpersonal relationships, were taken from Hazan and Shaver (1990). Keeping busy (six items, $\alpha = .74$) scale assesses the felt need to work at all times, including those times that most people use for relaxation and interaction with others. It includes items such as "I often take work along when I go on vacation" and "I am often told that I work too hard and don't relax enough." Work harms relationships (four items, $\alpha = .74$) deals with the perception that work interferes with or can substitute for interpersonal relationships, and includes items such as "My commitment to work interferes with friendships and social life" and "Work obligations are useful for avoiding social engagements." Prefer working with others (three items, $\alpha = .76$) has items such as "I really hate to work by myself" and "I would rather work by myself than with other people" (reverse-scored).

Results

Correlations among Personality Measures

The correlation among the eleven personality measures are shown in Table 5, which is based on the time 1 survey data. The need strength measures are positively intercorrelated, at moderate to high levels (.43 to .59). The attachment style measures are also moderately to highly intercorrelated (-.31 to -.66), in the directions

expected (preoccupied and fearful positively correlated with each other and negatively correlated with secure). The rest of the intercorrelations (either within sets or between sets) are much lower, with the largest correlation being .30. In general, the patterns of correlations are as expected. For example, need strength and attachment styles are essentially uncorrelated. The pattern of correlations between the Big Five and attachment styles is almost precisely the same as that found by Shaver and Brennan (1992), using different measures of both attachment styles and the Big Five. The intercorrelations among the Big Five measures are generally close to those reported by Goldberg (1992).

In sum, with the exception of the correlations within need strength and within attachment styles, correlations among the personality measures used here are generally low, with 0% to 10% of the variance shared. Hence, multicollinearity is not a problem, and there is the potential for the different personality measures to contribute unique variance.

Correlations among Job Attitudes

The correlations among the fourteen job attitude measures are shown in Table 6. Several patterns deserve mention. The compliance aspect of organizational commitment and prefer working with others are largely independent of the other attitudes. There are several clusters of attitudes that are highly correlated within the cluster, and slightly less correlated with other attitudes: job satisfaction, job involvement and joy in work; identification/internalization toward coworkers, supervisor, top management and the organization; keeping busy, time commitment, and work harms relationships; job involvement, driven and time commitment. Overall, there are many significant and sizable correlations among the job attitudes measured in this study, but at the same time, 26 of the 91 correlations are not significant at the .05 level. These general patterns suggest that some of these fourteen job attitudes are interrelated, but that they are not completely redundant concepts.

Correlations between Personality and Job Attitudes

Table 7 presents the correlations between the personality and job attitude measures. Non-significant correlations have been omitted. Due to the fact that there are significant intercorrelations among some of the personality measures, the hypotheses presented above will be tested by multiple regression analyses, which are described below. However, we will point out some general patterns among the correlations in Table 7.

Almost a third (50/154) of the correlations are significantly different than zero. Emotional Stability, the measure of negative affectivity used in this study, was significantly correlated with satisfaction, at a level ($r = .16$) quite similar to that generally found. Emotional stability was also correlated with compliance (negatively) and joy in work (positively). However, 94% (47/50) of the significant correlations involve personality measures other than emotional stability. In addition, the fifty significant correlations are evenly distributed across the three sets of personality measures (sixteen for needs, eighteen for the Big Five and sixteen for attachment styles). This overall pattern supports our basic argument that the relationship between personality and job attitudes cannot be reduced to affectivity and job satisfaction.

Another important pattern can be seen by examining the relationships among the variables as set: six sets of job attitudes (satisfaction, commitment, job involvement, work centrality, workaholism, and work and others) and three sets of personality measures (needs, Big Five, attachment styles). Of these eighteen cells (within the double lines in Table 7), fourteen contain significant correlations. Needs are related to specific job attitude measures within all of the sets except job satisfaction. The only cell empty for the Big Five is work centrality. One or more of the attachment styles is related to an attitude in all of the sets except job involvement and work centrality. Finally, only one of the specific job attitudes (commitment to top management) is completely unrelated to these personality measures.

Table 5
Intercorrelations among Personality Measures

	1	2	3	4	5	6	7	8	9	10
1. Existence										
2. Relatedness	48									
3. Growth	43	59								
4. Extraversion	09	11	23							
5. Agreeableness	20	30	26	21						
6. Conscientious.	19	12	10	10	25					
7. Emotion. Stab.	-14	-11	-14	-05	00	08				
8. Intellect	09	08	28	29	25	14	-10			
9. Secure	08	05	06	28	26	18	26	07		
10. Preoccupied	10	15	02	-16	02	-04	-27	-12	-31	
11. Fearful	04	00	00	-26	-27	-14	-19	-02	-66	37

Note. Decimal points omitted. Correlations based on Time 1 data. N's vary between 591 and 600. Correlations of .08 and greater are significant at $p < .05$.

Table 6
Intercorrelations among Job Attitudes

	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Job Sat													
2. Compliance	-14												
3. Cow Commit	30	10											
4. Sup Commit	38	14	53										
5. Top Commit	10	10	43	49									
6. Org Commit	11	11	47	53	66								
7. Job Involv	51	-14	34	34	32	42							
8. Work Centr	29	-05	22	21	30	25	43						
9. Driven	-02	-02	21	20	17	21	54	28					
10. Joy Work	72	-08	33	45	41	50	70	42	23				
11. Time Comm	14	01	18	17	13	14	54	38	49	41			
12. Keep Busy	-03	14	14	13	13	08	38	38	48	23	61		
13. Harm Rel	-11	25	09	10	-01	00	18	22	30	06	53	63	
14. Others	02	-09	10	-04	02	05	-03	-09	01	-05	-01	-05	-08

Note. Decimal points omitted. Correlations based on Time 2 data. N's vary between 341 and 345. Correlations of .11 and greater are significant at $p < .05$.

Table 7
Significant Correlations between Personality and Job Attitudes

	Job	Organiz'al Commitment					Job	Work	Workaholism			Work & Others		
	Sat	Comp	Cow	Sup	Top	Org	Inv	Cent	Drv	Joy	Time	Busy	Rel	Oth
<u>Needs</u>														
Existence		14												
Related		11	20			14	14		12		15	14		17
Growth						13	26	14	13	20	12	11		
<u>Big Five</u>														
Extravers	17					14	18			23				16
Agreeable				11		15				12			-13	18
Conscient	18	-12					19							
Emotional	16	-11								11				
Intellect							11			11				
<u>Attachment</u>														
Secure	16	-14							-15			-13	-13	11
Preoccup	-14	18										12	15	
Fearful	-20	19							11			11	17	-14
	Job	Comp	Cow	Sup	Top	Org	Job	Work	Drv	Joy	Time	Busy	Rel	Oth
	Sat	Organiz'al Commitment					Inv	Cent	Workaholism			Work & Others		

Note. Decimal points omitted. n's vary between 340 and 345. Only correlations significant at $p < .05$ are shown. Job Sat = Job Satisfaction, Comp = Compliance, Cow = Coworkers, Sup = Supervisor, Top = Top Management, Org = Organization, Job Inv = Job Involvement, Work Cent = Work Centrality, Drv = Driven, Joy = Joy in Work, Time = Time Commitment to Job, Busy = Need to Keep Busy, Rel = Work Harms Relationships, Oth = Prefer Working with Others.

Regression Analyses

Our hypotheses are best tested with multiple regression, so that the relationship between a personality measure and attitude can be assessed with the other personality measures statistically controlled. Accordingly, regressions were conducted for each of the job attitudes, entering the eleven personality measures as a block. Table 8 presents the results of these analyses. All beta weights significant at $p < .05$ are shown in the table, and the multiple R for each regression is at the bottom. The results for these analyses are summarized below. Given the number of relationships found, we will discuss possible interpretations of the specific findings at the same time. The discussion section will deal with the overall pattern of results.

Job satisfaction. Consistent with our hypotheses, emotional stability, extraversion and the fearful attachment style are significant predictors of job satisfaction. Contrary to our hypotheses, growth need strength, and the attachment styles of secure and preoccupied are not significant predictors. Although not hypothesized, conscientiousness predicts satisfaction. Overall, three personality measures add significantly to emotional stability in predicting job satisfaction, and the multiple correlation of .31 represents a significant improvement over the simple correlation of .16 for emotional stability alone. These findings support our general argument that the relationship between personality and satisfaction cannot be reduced to affectivity.

Compliance. As predicted, compliance as a basis of commitment is significantly predicted by existence need strength, conscientiousness and the fearful attachment style. The preoccupied attachment style also predicts compliance, contrary to the hypotheses.

Identification and internalization for the four foci. In this study, the factor analysis does not support keeping identification and internalization as separate measures, making the test of some of the hypotheses ambiguous. Relatedness need strength is a significant predictor of identification/internalization only to the coworkers. Although this relationship makes sense, given the likely importance of the coworkers for employees new to the work force, this was the only case where relatedness need strength was a predictor, and growth need strength did not predict commitment to any foci based on identification/internalization. Agreeableness is a significant predictor of commitment to both supervisor and the organization, and extraversion is also a predictor for commitment to the organization. Contrary to predictions, none of the attachment styles predict identification and internalization for the four foci. Overall, the multiple R's for identification/internalization for the four foci are among the lowest in Table 8, and commitment to top management is the only job attitude not significantly predicted by the set of personality measures.

Job involvement. As expected, growth need strength is a significant predictor of job involvement. The beta weight for GNS in this regression is the largest in Table 8. Conscientiousness, as predicted, is also a significant predictor. Although not expected, extraversion is an additional predictor of job involvement. It is reasonable that a more extraverted individual becomes more involved in the job, as being outgoing allows one to connect with others in the work place. The more introverted worker may be withdrawn from others and from work-related interaction, making involvement in the job less likely.

Work centrality. As expected, and parallel with job involvement, growth need strength predicts work centrality. However, conscientiousness is not a significant predictor. As with job involvement, extraversion is a significant, but unexpected predictor. One possibility is that work may be central to some individual's self-concept partially due to the opportunity to express an outgoing personality in the work setting.

Workaholism. The three workaholism sub-scales show different patterns and must be discussed separately. Driven, the inner compulsion to work, is predicted by growth need strength, as expected, while conscientiousness does not predict this aspect of workaholism. In addition, the secure attachment style has a significantly negative weight in predicting driven. Possibly, those who are secure in their self-definition and in relationships with others do not need to work hard as a way to somehow replace or make up for attachments with others. Joy in work, the intrinsic enjoyment of the work itself, is predicted by growth need strength and

Table 8
Summary of Regression Analyses

	Job	Organiz'al Commitment					Job	Work	Workaholism			Work & Others		
	Sat	Comp	Cow	Sup	Top	Org	Inv	Cent	Drv	Joy	Time	Busy	Rel	Oth
<u>Needs</u>														
Existence		13									-14			
Related			20								21	13		15
Growth							23	12	13	19				-15
<u>Big Five</u>														
Extravers	15					12	12	12		20				15
Agreeable				11		13								13
Conscient	14	-12					16							
Emotional	14									16				
Intellect														
<u>Attachment</u>														
Secure									-15			-13		
Preoccup		12												
Fearful	-12	12											17	
<u>Multiple R</u>	31	28	20	11	ns	19	34	19	20	32	19	19	17	28
	Job	Comp	Cow	Sup	Top	Org	Job	Work	Drv	Joy	Time	Busy	Rel	Oth
	Sat	Organiz'al Commitment					Inv	Cent	Workaholism			Work & Others		

Note. Regressions were conducted with each job attitude as the criterion and the personality measures as predictors. Entries in table are standardized beta weights, with the multiple correlation in the bottom row. Decimal points are omitted. n's vary between 340 and 345. Job Sat = Job Satisfaction, Comp = Compliance, Cow = Coworkers, Sup = Supervisor, Top = Top Management, Org = Organization, Job Inv = Job Involvement, Work Cent = Work Centrality, Drv = Driven, Joy = Joy in Work, Time = Time Commitment to Job, Busy = Need to Keep Busy, Rel = Work Harms Relationships, Oth = Prefer Working with Others.

extraversion, probably for the same reasons these two variables predict job involvement and work centrality. Again, conscientiousness fails to be a predictor. In addition, emotional stability is a significant predictor of joy in work, suggesting that finding enjoyment in the work itself has an affective component.

Time commitment to job (e.g., devoting inordinate time to one's work, working until one is too tired to work more) has a very different pattern of predictors, compared to the other workaholism scales. In addition, this is the only attitude where the correlation (Table 7) and regression results (Table 8) are quite different. Although growth need strength is correlated with time commitment, as expected, the beta weight in the regression is not significant. In addition, the beta weight for existence need strength is significant, with a negative sign, even though the correlation is not significant. Relatedness need strength shows both a positive correlation and beta weight. This pattern of results is no doubt due to the moderately high intercorrelations among the need measures. The best conclusion is that need states, in some combination, predict time commitment to the job.

Work and others. The first scale in this category is keeping busy, which assesses the felt need to work at all times, including those times that most people use for relaxation and interaction with others. There are two significant predictors here: relatedness need strength (positive beta weight) and secure attachment style (negative weight). The first finding suggests that the stronger the need for relationships with others, the more the respondent works during leisure time. This seems counter-intuitive, unless the direction of causality is from keeping busy to need strength; the behavior of working instead of interacting with others may lead to a need for better interpersonal relationships. The negative relation with secure attachment style suggests that those who have a positive model of themselves and others do not feel they must work hard at the expense of interpersonal relationships.

The second scale is work harms relationships, defined as the perception that work interferes with or can substitute for interpersonal relationships. There is only one significant predictor here: fearful attachment style. Those who have a negative model of both themselves and others believe that work can be used to avoid social relationships. Prefer working with others, the final scale, has four significant predictors. Relatedness need strength has a positive beta weight, indicating that those who desire better interpersonal relationships prefer working with others. Growth need strength has a negative weight, meaning that those who have strong growth needs would rather work independently, which is consistent with many findings for need for achievement, a concept closely related to GNS. There are also positive weights for extraversion and agreeableness.

Discussion

Using longitudinal data from a moderately large sample of recent college graduates, we have provided support for the two general propositions: (1) personality variables other than negative affectivity add significantly to predicting job satisfaction, and (2) job attitudes other than satisfaction can be predicted by a mix of personality variables tapping need states, attachment styles and the Big Five. The bottom line is that a dispositional approach to job attitudes needs to go beyond job satisfaction and negative affectivity.

Some general patterns of results are worth commenting on. The amount of variance accounted by the three sets of personality measures in combination is a bit better than what is usually found for single personality correlates. Most research on personality and job attitudes have found correlations in the teens, which is consistent with our findings. However, we have demonstrated that the various measures often add to each other, with half of the multiple correlations being in the 20's and three being in the 30's. Some job attitudes were better predicted than others. Job satisfaction, job involvement, the compliance basis of commitment and elements of workaholism were predicted better than the rest. Commitment based on identification and internalization was among the most poorly predicted.

One possible reason for the pattern just noted involves the nature of our participants, who are new college graduates just entering the work force. Commitment based on identification with others and internalization of their values may take more than six months to develop, while some of the other job and work attitudes are

developed and stabilized more quickly. The only specific job attitudes completely unrelated to these personality measures was commitment to top management. New employees are unlikely to know who top management is, much less identify with them or internalize their values. In fact, our findings may understate the true relationships between personality and job attitudes because dispositional effects may increase over time (e.g., Helmreich, Sawin & Carsrud, 1986; Staw, Bell & Clausen, 1986). Another overall pattern is that all of the personality measures taken here were useful in predicting one or more job attitude, with the exception of intellect from the Big Five. Extraversion and growth need strength were significant predictors the most often (six and five times, respectively). Emotional stability (or negative affectivity) was a significant predictor for only two job attitudes. As a group, needs and the Big Five showed the most promise as predictors of a broad array of job attitudes.

The research design used here has a mix of strengths and weaknesses. On the positive side, the sample size (345) is reasonably large, and is very heterogeneous with regard to types of jobs and organizations represented. There was also some geographic dispersion after graduation. On the other hand, because all participants are recent college graduates, the level of education, age, and job tenure are quite restricted in range. The strongest element of the design is that it was longitudinal, with the job attitude measures taken six months after the personality measures. Although causality is always a question in this type of research, a predictive study is superior to a cross-sectional investigation in assessing directionality among variables.

In summary, this study suggests that a variety of personality measures are related in mostly predictable ways to a variety of job attitudes. Research should continue in the quest to understand the affective underpinnings of job satisfaction and related emotions at work. However, at the same time, we urge that a dispositional approach to job attitudes broadly define both dispositions and attitudes.

Study 3: Predicting Organizational Commitment: The Role of Attachment Styles and Motivation to Commit

Scholars and practitioners interested in organizational behavior have studied employee commitment for years (for recent reviews, see Mathieu & Zajac, 1990; Randall, 1990). This fascination with the psychological attachment of employees to organizations stems from the established relationships between organizational commitment and important work-related behaviors. Commitment to the organization is positively associated with such desirable outcomes as attendance (Mathieu & Zajac, 1990; Steers & Rhodes, 1978), motivation (Mowday, Steers, & Porter, 1979), job satisfaction (Bateman & Strasser, 1984; Mowday, Porter, & Steers, 1982), and organizational citizenship behaviors (Brief & Motowidlo, 1986; Organ, 1988). Further, organizational commitment is negatively related to outcomes such as absenteeism and turnover (Clegg, 1983; Cotton & Tuttle, 1986). Given the clear implications of these outcomes for individual and organizational effectiveness, the continuing research on employee commitment seems justified.

In attempting to understand how and why individuals develop bonds with organizations, a number of scholars have examined potential antecedents of employee commitment. These antecedents include personal characteristics such as age, gender, and work ethic (Grusky, 1966; Kidron, 1978; Meyer & Allen, 1984), role states such as role ambiguity and conflict (Mowday et al., 1982), job characteristics such as skill variety and autonomy (Steers, 1977), interpersonal variables such as group cohesiveness and leader behavior (Bruning & Snyder, 1983; Welsh & LaVan, 1981), and organizational factors such as organizational size and centralization (Bateman & Strasser, 1984; Stevens, Beyer, & Trice, 1978). Mathieu and Zajac, in their 1990 meta-analytic study of organizational commitment, conclude that much of the literature on antecedents of commitment has been atheoretical. That is, there has been relatively little work explaining why certain variables should predict commitment. Further, these authors recommend that "future research be directed at gaining a greater understanding of how the antecedents of OC <organizational commitment> may differ from one situation to another, as well as between different types of individuals" (Mathieu & Zajac, 1990: 189).

Several researchers have recently explored the feasibility of predicting organizational commitment prior to employment (Lee, Ashford, Walsh, & Mowday, 1992; Pierce & Dunham, 1987). This work is based on the suggestion by Mowday and his colleagues (1982) that personal characteristics, expectations about the job, and characteristics of job choice may create or reflect a pre-employment propensity to become committed to organizations. This is an important line of research for at least two reasons. First, scholars interested in building theories of how commitment develops need to know what specific dispositional, cognitive, and motivational factors may predispose people to become committed. Second, as alluded to earlier, commitment appears to be a determinant of important individual and organizational outcomes. Thus, researchers and practitioners interested in, say, increasing employee motivation and satisfaction and decreasing absenteeism and turnover may be aided in their efforts by knowledge of which job applicants or employees are inclined to develop high levels of commitment.

The importance of the topic notwithstanding, there are a number of serious limitations in the current literature on commitment propensity. The first problem involves the definition of the term itself. As noted by others, Mowday and his colleagues (1982) were not exactly clear as to the meaning of commitment propensity (Pierce & Dunham, 1987). While Mowday and colleagues identify possible personal characteristics, job expectations, and job choice dimensions in their discussion of commitment propensity, the authors do not specify whether these variables are components of or antecedents to the pre-employment inclination to become attached to organizations. This confusion has led some researchers to treat the variables as antecedents (Pierce & Dunham, 1987) and others to treat them as components (Lee et al., 1992).

A second limitation to the current literature is that the processes through which pre-employment propensity affects on-the-job commitment remain largely unspecified. That is, there is little theoretical or empirical guidance as to why components of commitment propensity may lead to organizational commitment. Without an explanation of this process our understanding of the phenomenon is reduced to a pattern of haphazard correlations.

Finally, the brief literature on commitment propensity has ignored the bases of commitment. As discussed previously, O'Reilly and Chatman (1986) found that compliance, identification, and internalization as bases of commitment were differentially related to prosocial organizational behaviors, turnover, and intent to stay with the organization. These findings suggest that the ability to predict which bases of commitment employees will develop would aid in fostering desirable behaviors in organizations. To this point, however, work on commitment propensity has not attempted to address this issue.

The primary purpose of study 3 is to resolve the three limitations just discussed. Specifically, our major goals are to provide a more meaningful conceptualization of commitment propensity, explain how components of commitment propensity affect on-the-job commitment, and link pre-employment propensity to the bases of organizational commitment.

Commitment Propensity: The Role of Attachment Styles and Motivation to Commit

We define commitment propensity as the pre-employment tendency of individuals to become committed to organizations. We further accept the definition of organizational commitment as the psychological attachment of employees to the workplace (Allen & Meyer, 1990; Becker, 1992; O'Reilly & Chatman, 1986). Hence, in considering the nature of commitment propensity it is necessary to evaluate peoples' predisposition to become psychologically attached. Fortunately, there is a vast literature on human attachment in the realms of developmental and social psychology. This literature will be analyzed in the following section. In addition to a disposition to become attached to organizations, our conceptualization of commitment propensity includes situationally specific cognitive variables. In particular, we propose that people are inclined to become committed to organizations when organizational commitment is expected to result in valued material and social outcomes. This notion is elucidated below. In summary, our conceptualization of commitment propensity holds

that the construct is composed of two related elements: a general predisposition to become attached to organizations, and specific expectations regarding the potential outcomes of commitment.

Attachment Styles

Although previous authors have acknowledged the role that values, beliefs, and personality factors may play in commitment propensity (Lee et al., 1992; Mowday et al., 1982; Pierce & Dunham, 1987), it is not yet clear which specific values, beliefs, and dimensions of personality are most relevant. Just as importantly, why particular values, beliefs, and personality factors should predict commitment remains an open question. We assert here that the concept of attachment style can clarify this issue.

As discussed in studies 1 and 2, attachment theory holds that the attachment styles developed in childhood continue to affect the nature of adult bonds (Ainsworth, 1982; 1989; Ricks, 1985; Weiss, 1982). In study 1 we validated a model of three fundamental styles of attachment, as follows. Adults with a *secure attachment style* have positive perceptions of both themselves and others. Because they have a sense of worthiness and an expectation that other people are typically accepting and responsive, these adults are comfortable with intimacy and autonomy. Individuals with a *preoccupied attachment style* have positive perceptions of others but view themselves negatively. This combination leads these people to strive for self-acceptance by gaining the acceptance of valued others; therefore, they are preoccupied with relationships. Adults with a *fearful attachment style* view both themselves and others negatively. These people are insecure and afraid of intimacy because they expect to be rejected by others. By being socially avoidant, these individuals hope to protect themselves against such rejection. Because the secure and fearful attachment styles are highly and negatively correlated (study 1; Bartholomew & Horowitz, 1991), we will treat them as opposite ends of a single continuum.

If an attachment style is the characteristic manner in which individuals become attached to others, then this variable may constitute a general predisposition of individuals to become attached to organizations. Specifically, we posit that attachment styles predict compliance as a basis of commitment. In making this connection, we draw upon the principle of compatibility. This principle states that a given attitude should be related to other attitudes or behaviors only to the extent that the level of specificity of the attitudes and behaviors are similar (Ajzen, 1989; Fishbein & Ajzen, 1975; 1976). As discussed above, attachment styles reflect a general inclination to become psychologically attached to others in a certain manner, i.e., regardless of the attributes of others. Further, both theory and research have established compliance as an across-foci factor (Becker, 1992; Becker, Randall, & Riegel, 1995). That is, compliance is a general tendency to establish relationships in order to obtain concrete rewards and avoid negative outcomes -- regardless of the attributes of the other party in the relationship. Thus, both attachment styles and compliance are general psychological constructs believed to influence individuals independent of the attributes of other people, groups, or organizations.

There is evidence that compliance as a basis of commitment has negative consequences. For instance, high levels of compliance predict low levels of satisfaction, low levels of prosocial organizational behaviors, and high levels of turnover (Becker, 1992; O'Reilly & Chatman, 1986). This appears to be because this form of commitment is fleeting and does not involve acceptance of values and norms beneficial to organizations. Because people with a secure attachment style view themselves and others positively, they should be unlikely to develop a negative basis of commitment (such as compliance) to other people or organizations. Developing such an attachment would be contrary to these individuals' beliefs that positive relationships with others are normal and desirable. Thus,

Hypothesis 1: The secure attachment style is negatively related to compliance as a basis of commitment.

Like people with a secure attachment style, persons with a preoccupied style view others positively. However, those with a preoccupied attachment style view themselves negatively. This style of attachment has

been linked to neuroticism, anxiety, and depression, probably because attempting to gain self-acceptance through the acceptance of others is a futile and frustrating endeavor (Shaver & Brennan, 1992). The frustration and anxiety stemming from the preoccupied style, we argue, can serve as a foundation for worker alienation and the development of compliance as the predominant basis of commitment. Hence,

Hypothesis 2: The preoccupied attachment style is positively related to compliance as a basis of commitment.

In contrast to compliance, identification and internalization have been shown to be within-foci commitment factors (Becker, Billings, Eveleth, & Gilbert, in press; Harris, Hirschfield, Feild, & Mossholder, 1993; Vandenberg, Self, and Seo, 1994). That is, identification with a given target (person, group, or organization) and internalization of a given target's goals and values are specific attitudes which may vary as a function of the attributes of the target. Therefore, the principle of compatibility suggests that attachment styles should be poor predictors of identification and internalization. We turn next to consideration of a variable that may be more relevant for predicting these bases of commitment.

Motivation to Commit

Mowday and his colleagues (1982) pointed out that people who enter organizations with high job expectations may have a greater propensity to become committed. Subsequently, individuals whose work experiences meet their expectations are more likely to develop attachment to the organization. Nevertheless, Mowday (1980) found no relationship between new hires' expectations (regarding supervisory behavior, reward practices, role characteristics, and job challenge) and commitment after one month on the job. Later research has not explicated the link between expectations and commitment. Pierce and Dunham (1987) treated expectations as an antecedent rather than component of commitment propensity, and did not examine the relationship between pre-employment expectations and commitment. Lee and his colleagues (1992) combined expectations with other personal characteristics and job choice factors to form a composite measure of commitment propensity; thus, these authors were unable to isolate the association between expectations and commitment.

Like Mowday and his colleagues (1982) and Lee and his colleagues (1992), we believe that work-related expectations are a central component of commitment propensity. However, we assert that it is not general expectations about the job, supervisor, or organizational practices that comprise propensity to become committed. Rather, we theorize that it is the expectation that becoming committed to the organization will produce valued social or material outcomes that is at the heart of commitment propensity. This conceptualization has two advantages over the earlier views. First, expectations regarding the outcomes of commitment are more relevant to predicting commitment than are other job-related expectations. This logic is supported by the principle of compatibility. In addition to recognizing the importance of similar levels of specificity, this principle states that a given attitude should be related to other attitudes and behaviors only to the extent that the focus of the attitudes and behaviors are similar (Ajzen, 1989; Fishbein & Ajzen, 1976). The focus of commitment-related expectations is commitment; the focus of expectations investigated by previous authors has been the job, the supervisor, and organizational practices.

Second, our conceptualization incorporates the expectancy theory notion that it is not only expectations, but the valence of outcomes that must be included in assessing motivation (in this case, motivation to become committed to organizations). Consistent with expectancy theory (Vroom, 1964), we define motivation to commit as the sum of expectations that commitment will lead to certain outcomes, with each expectation weighted by the valence of the outcome.

We predict that people will develop identification as the basis of commitment when identifying with an organization is expected to result in desirable outcomes. This includes not only material outcomes such as higher pay or a promotion, but relationship-oriented outcomes such as working well with others and the

appreciation and respect of other persons. This last point is particularly important because identification includes the desire to become involved in a satisfying, self-defining relationship with others. Similarly, we predict that people will develop internalization as the basis of commitment when accepting the values and goals of an organization are expected to lead to desirable outcomes. Hence,

Hypothesis 3: Pre-employment motivation to become committed is positively related to identification and internalization as bases of commitment.

As noted above, compliance reflects a general, relatively stable mind-set. Such a mind-set should be easier to predict than a more protean attitude. Also, because many people in many organizations could serve as the focus of an individual's desire to develop satisfying relationships, identification should be a reasonably predictable basis of commitment. A person desiring self-defining relationships could potentially satisfy this desire in numerous organizations. In contrast, internalization of the values and goals of a given organization is likely to be difficult to predict. Organizations have different cultures, and these cultures reflect vastly different goals and values (Peters & Waterman, 1982; Schein, 1985; Schneider, 1990). Further, employees are likely to internalize organizational values only if these values are congruent with the employees' own belief-systems (Meglino, Ravlin, & Adkins, 1989). Therefore, before an individual has any knowledge of the goals and values of a given organization it seems improbable that he or she has any pervasive tendency to internalize the organization's goals and values. Thus,

Hypothesis 4: Commitment propensity variables (attachment styles and motivation to commit) predict compliance and identification to a greater extent than they do internalization.

Propensity, Commitment, and Employee Intentions

Rather than simply correlating organizational commitment with various behaviors, recent researchers have investigated the complex psychological process associated with the commitment-behavior linkage. There is a growing realization that the affect of commitment on work behaviors is mediated by behavioral intentions (Mathieu & Zajac, 1990). This realization is evinced in research tying commitment to turnover (Arnold & Feldman, 1982; Bluedorn, 1982; Mobley, Griffeth, Hand & Meglino, 1979; Stumpf & Hartman, 1984), absenteeism (Steers & Rhodes, 1978; 1984), and organizational citizenship behaviors (Becker et al., 1995). In fitting the concept of commitment propensity into the nomothetic network surrounding organizational commitment, we propose that commitment propensity is related to employee work-related intentions through propensity's relationship with commitment. In this study we examined the mediating effect of commitment on the relationship between commitment propensity and three employee intentions. Because commitment has been widely linked to employee punctuality (Mathieu & Zajac, 1990; Steers & Rhodes, 1978), we included intent to be punctual as a dependent variable. Also, because of the growing interest in organizational citizenship behaviors and the apparent affect of commitment on these behaviors (Brief & Motowidlo, 1986; Organ, 1988), we included intent to perform these behaviors as dependent variables. Specifically, we incorporated intent to engage in altruism (defined by Smith, Organ, and Near, 1983, as behavior that is directly and intentionally aimed at helping specific people in face-to-face situations) and intent to engage in conscientiousness (defined by Smith and her colleagues as a more impersonal form of helping behavior that does not provide immediate aid to a particular person, but is intended to be indirectly helpful to other people in the organization) in this study. Given the above reasoning, we predicted,

Hypothesis 5: Commitment based on compliance, identification, and internalization mediates the relationships between commitment propensity variables and intent to be punctual, intent to engage in altruism and intent to engage in conscientiousness.

Method

Procedure and Participants

We sent questionnaires to all 1546 members of the graduating class of May, 1994, of Washington State University. This questionnaire asked respondents for demographic information and assessed respondents with respect to their attachment styles, motivation to commit, general tendency to manage impressions, and several other variables not relevant to the current study. Following three follow-up mailings, 951 usable questionnaires (61.5 percent) were returned to us through regular mail. Six months later (time 2), we sent another questionnaire to the 951 individuals who responded at time 1. This questionnaire measured the bases of commitment to the organization, intentions to be punctual and to engage in altruism and conscientiousness, and several other variables not pertinent to this study. Following three follow-up mailings, 521 usable questionnaires were returned (a time 2 response rate of 54.8 percent and an overall response rate of 33.7 percent). Because our goal was to predict commitment prior to employment, we restricted our attention to those individuals who, at time 2, had been employed on their current job for six months or less. Due to this restriction, along with missing data on some of the time 2 variables, 208 respondents were used in our analyses.

Respondents used in the analyses ranged in age from 22 to 42 with a median of 24 years; 51.0 percent of the respondents were female. With respect to ethnicity, 89.9 percent of respondents were Caucasian, 1.4 percent Hispanic, and 3.4 percent Asian; 4.8 percent classified themselves as "other," and none classified themselves as Black or Native American. Undergraduate degrees were received by 96.2 percent of respondents, while 2.9% received professional degrees and 1.0 percent received other graduate degrees. At time 1, 38.8 percent of respondents were employed full-time, 21.4 percent part-time, and 1.5 percent self-employed; the rest were not employed. At time 2, 81.2 percent of respondents were employed full-time, 17.8 percent part-time, and 1.1 percent self-employed (note that due to our restrictions no respondents were employed with the same organization at time 2 as at time 1). The typical respondent was with his or her organization for 3.5 months at time 2 and worked in a medium-sized company. To examine the effects of the drop-out rate we compared respondents used in the analyses to non-respondents (i.e., those for whom no surveys were returned but for whom we had some demographic information from university records), all other respondents (i.e., those who returned the time 1 survey, time 2 survey, or both), and other time 2 respondents. Respondents used in the analyses and other subsets of the sample were very similar. Differences, where they existed, were small.

Measures

Attachment styles. In study 1, we developed and validated a 25-item Likert-type instrument for assessing the secure, fearful, and preoccupied attachment styles. We used principle-axis factoring with squared multiple correlations as communality estimates to examine the factor structure of this instrument in the current sample. An examination of the scree plot and differences among eigenvalues showed that a two-factor solution was most consistent with the data. The obliquely rotated factor solution, using the Harris-Kaiser independent cluster technique, supported the secure and preoccupied attachment styles as factors. One item was dropped because it did not load heavily on either factor. Items originally intended to measure the fearful style loaded on the secure attachment style factor; given the high negative correlation between these two styles found in previous research (Bartholomew & Horowitz, 1991; study 1), this is not particularly surprising.

Fifteen items measured the secure attachment style. Examples are: (1) It is easy for me to get emotionally close to others, (2) I find it difficult to allow myself to depend on others (reverse-scored), and (3) I know that others will be there when I need them. Nine items measured the preoccupied attachment style. Examples are: (1) I want to be completely emotionally intimated with others, but I often find that others are reluctant to get as close to me, (2) My desire to merge sometimes scares people away, and (3) Sometimes people do not want to get close to me because I want so much to be close to them. Responses were given on a seven-point scale from "strongly disagree" to "strongly agree." Scale scores were computed by averaging across the appropriate items.

Motivation to Commit. In order to create a measure of the expectations that commitment may lead to valued outcomes, we conducted a pilot study. The pilot involved administering a two-part questionnaire to 58 juniors and seniors in two sections of an advanced course in human resource management. All participants were either currently employed or had been employed within the last two years. The first part of the questionnaire asked participants to imagine that they were highly committed to their current or most recent employer, and to list all of the positive outcomes that occurred or could have occurred due to their high level of commitment to the organization. The second part of the questionnaire asked the participants to list all of the negative outcomes that occurred or could have occurred due to their high level of commitment. We asked for both positive and negative outcomes because it has been suggested that high levels of commitment can have both positive and negative consequences (Randall, 1987).

On the basis of the frequency with which they were identified in the pilot, 15 potential outcomes of commitment were included in the questionnaire used in the current study. Examples of potentially positive outcomes of organizational commitment included (1) increasing your chances of higher pay, (2) other people helping you out on the job, and (3) greater appreciation and respect from other people in the company. Examples of potentially negative outcomes of commitment included (1) being taken advantage of by other people in the company, (2) more work to do on your job, and (3) being asked to work overtime.

Respondents in the current study were asked, first, to indicate how positive or negative each event was to them personally. These responses measured the valence of the outcomes. Answers were given on a seven-point scale from "extremely negative" to "extremely positive." This section emphasized that these responses were to focus on how positive or negative each event was perceived to be, not the likelihood of the events. Second, respondents were asked to consider the likelihood that the events would occur if respondents were highly committed to an organization. These responses measured the expectations vis a vis the outcomes. Answers were given on a seven-point scale from "no chance at all" to "extremely good chance." Respondents' scores on each of the 15 items were then calculated as the valence of the given outcome multiplied by the corresponding expectation.

We factor analyzed the scores on the 15 items using the same methodology used for the attachment style items. The scree plot and differences among eigenvalues suggested a two-factor solution, but only three items loaded on the second factor; the scale associated with this factor proved to have very low reliability ($\alpha = .55$), so was eliminated. Two other items were dropped because they did not load heavily on either factor. Scale scores for the motivation to commit were computed by averaging across the remaining 10 items.

Bases of commitment. Identification, internalization, and compliance were measured using the items developed and used by Becker (1992). Five items were used to measure organizational identification: (1) "When someone criticizes this organization, it feels like a personal insult," (2) "When I talk about this organization, I usually say 'we' rather than 'they,'" (3) "This organization's successes are my successes," (4) "When someone praises this organization, it feels like a personal compliment," and (5) "I feel a sense of 'ownership' for this organization." Four items were used to measure internalization of organizational values: (1) "If the values of this organization were different, I would not be as attached to this organization," (2) "My attachment to this organization is primarily based on the similarity of my values and those represented by this organization," (3) "Since starting this job, my personal values and those of this organization have become more similar," and (4) "The reason I prefer this organization to others is because of what it stands for, that is, its values."

Because compliance has been shown to be an across-foci construct (Becker, 1992; Becker et al., 1995), we included items assessing compliance to multiple foci. Specifically, we measured compliance via four items for each of four foci (for a total of 16 compliance items): co-workers, supervisors, top management, and organizations. These items were: (1) "Unless <my co-workers, my supervisor, top management, the organization> rewards me for it in some way, I see no reason to expend extra effort on behalf of <my co-workers, my supervisor, top management, the organization>," (2) "How hard I work for <my co-workers, my

supervisor, top management, the organization> is directly linked to how much I am rewarded," (3) "My private views about <my co-workers, my supervisor, top management, the organization> are different than those I express publicly," and (4) In order for me to get rewarded by <my co-workers, my supervisor, top management, the organization>, it is necessary to express the right attitude."

Responses to all of the commitment items were given on a seven-point scale from "strongly disagree" to "strongly agree." Factor analyses supported the use of three factors: compliance (across the four foci), organizational identification, and internalization of organizational values. Scale scores were computed by averaging across items within scales.

Impression management. Due to the possibility that people are biased to respond to attitude measures in a socially desirable manner (Schmitt & Klimoski, 1991), we incorporated a measure of social desirability in our time 1 questionnaire. For this purpose, we accepted Zerbe and Paulhus' (1987) view that impression management is a form of socially desirable responding wherein an individual attempts to look good to others. To measure this tendency, we used the 20-item scale developed by Paulhus (Paulhus, 1984; 1988). Examples of items are: (1) "I never cover up my mistakes," (2) "I don't gossip about other people's business," and (3) "I have taken sick-leave from work or school even though I wasn't really sick" (reverse scored). Responses were given on a seven-point scale from "not true" to "very true." Factor analyses showed that all the items loaded on one factor. Therefore, scale scores were calculated by averaging across all 20 items.

Intentions. We used three items for each behavior (punctuality, altruism, and conscientiousness) to measure intentions. The wording for the first item was borrowed from Ajzen and Fishbein (1980). For example, for punctuality, the item was, "I intend to be on time to work every shift that I work." Responses were given on a seven-point scale from "strongly disagree" to "strongly agree." The next two items reflected the distinction between behavioral self-prediction and desire (Fishbein & Stasson, 1990; Warshaw & Davis, 1985). For example, for punctuality, the self-prediction item was, "How likely is it that you will be on time to work every shift that you work?" Responses were provided on a seven-point scale from "extremely unlikely" to "extremely likely." For punctuality, the item assessing desire read, "I very much want to be on time to work every shift that I work." Responses were given on a seven-point scale from "strongly disagree" to "strongly agree." Factor analyses for each behavior demonstrated that the three items loaded cleanly on a single factor. The respondents' intentions to engage in each behavior was calculated by averaging across the corresponding three items.

Results

Table 9 contains the descriptive statistics and alphas for all variables. Because the distributions of the three intentions were negatively skewed and leptokurtic, intentions data were transformed by taking the fifth power of participants' scores on these scales. This procedure produced a more normally distributed set of scores appropriate for use in the regression analyses discussed below. As shown in Table 9, the secure attachment style is significantly and negatively correlated with compliance as a basis of commitment, while the preoccupied style is positively correlated with compliance. This supports Hypotheses 1 and 2. Neither attachment style is significantly correlated with identification or internalization, but the motivation to commit is significantly and positively correlated with identification. This supports Hypothesis 3. However, contrary to Hypothesis 3, the motivation to commit is not significantly correlated with internalization.

To test Hypotheses 1, 2 and 3 more rigorously and to examine Hypothesis 4, we regressed the bases of commitment on the commitment propensity components controlling for the tendency to manage impressions. The results are shown in Table 10. The regression of compliance on propensity components shows that the set of predictors explains significant variance in compliance ($R^2 = .135$, $p < .001$) and, controlling for the other variables, the secure attachment style is significantly and negatively associated with compliance ($\beta = -.23$, $p < .01$). This supports Hypothesis 1. When controlling for the other variables, the preoccupied style is positively

associated with compliance, but not significantly so ($\beta = .10$, n.s.). These findings do not support Hypothesis 2.

The regression of identification on the propensity components shows that the set of predictors account for significant variance in identification ($R^2 = .049$, $p < .05$) and, controlling for the other variables, motivation to commit is significantly and positively associated with identification ($\beta = .21$, $p < .01$). However, the regression involving internalization demonstrates that the components of commitment propensity do not explain significant variance in internalization ($R^2 = .008$, n.s.), nor is motivation to commit significantly associated with internalization ($\beta = .08$, n.s.). In summary, the regression involving identification supports Hypothesis 3 but the regression involving internalization does not.

Hypothesis 4 states that components of commitment propensity predict compliance and identification to a greater extent than they predict internalization. To examine this hypothesis we used the technique described by Steiger (1980) and Steiger and Browne (1984) for testing the difference between dependent multiple correlations. The multiple correlation for compliance reported in Table 10 ($R = .367$) is significantly larger than the multiple correlation for internalization ($R = .092$), $t(205) = 2.97$, $p < .01$. Further, the multiple correlation for identification reported in Table 10 ($R = .221$) is significantly greater than the multiple correlation for internalization ($R = .092$), $t(205) = 2.15$, $p < .05$. These findings support Hypothesis 4.

Hypothesis 5 states that the bases of commitment mediate the relationship between components of commitment propensity and intent to be punctual, intent to be altruistic and intent to be conscientious. We used hierarchical regression to test this hypothesis. In the first step, the commitment variables and impression management were entered into the equation. This allowed us to determine whether these variables explained significant variance in intentions. In the second step, the commitment propensity variables were entered into the equation. This allowed us to test Hypothesis 5; given this hypothesis we did not expect attachment styles and motivation to commit, as a set or individually, to explain variance in intentions above and beyond that explained by the commitment variables. The results are shown in Table 11.

In step 1 of the regression involving intent to be punctual, the set of variables containing the bases of commitment and impression management did not account for significant variance in punctuality intentions ($R^2 = .023$, n.s.). However, the set of propensity variables (in step 2) explained variance in intent to be punctual over and above that explained by the bases of commitment ($\Delta R^2 = .061$, $p < .001$). Further, both the preoccupied attachment style and motivation to commit accounted for unique variance in punctuality intentions, with the preoccupied style predicting a lower intent to be punctual ($\beta = -.16$, $p < .05$) and motivation to commit predicting a greater intent to be punctual ($\beta = .20$, $p < .01$). These findings do not support Hypothesis 5.

In step 1 of the regression involving intent to be altruistic, the set of variables containing the bases of commitment and impression management accounted for significant variance in altruistic intentions ($R^2 = .078$, $p < .01$). The set of propensity variables (in step 2) did not explain variance in intent to be altruistic over and above that explained by the bases of commitment ($\Delta R^2 = .016$, n.s.). These results support Hypothesis 5.

In step 1 of the regression involving intent to be conscientious, the set of variables containing the bases of commitment and impression management accounted for significant variance in conscientiousness intentions ($R^2 = .049$, $p < .05$). However, the set of propensity variables (in step 2) explained variance in intent to be conscientious above and beyond that explained by the bases of commitment ($\Delta R^2 = .062$, $p < .001$). Further, both the secure and preoccupied attachment styles accounted for unique variance in conscientiousness intentions, and both styles were negatively associated with intent to be conscientious (for the secure attachment style, $\beta = -.15$, $p < .05$; for the preoccupied style, $\beta = -.27$, $p < .001$). These findings do not support Hypothesis 5.

Table 9
Descriptive Statistics and Correlations

Variable	Mean	SD	1	2	3	4	5	6	7	8	9	10
1. Secure attachment style	4.88	0.93	(.88)									
2. Preoccupied attachment style	2.79	0.83	-.46	(.81)								
3. Motivation to commit	33.25	5.90	.20	-.21	(.87)							
4. Impression management	4.22	0.89	.06	-.09	.04	(.81)						
5. Compliance	3.67	0.85	-.28	.22	-.06	-.23	(.81)					
6. Identification	4.74	1.39	-.02	-.06	.21	-.03	.07	(.90)				
7. Internalization	4.44	1.48	.02	-.05	.08	.01	.08	.67	(.89)			
8. Intentions- Punctuality	13978.35	4223.24	.01	-.15	.19	.12	.03	.02	.07	(.86)		
9. Intentions- Altruism	14381.45	3607.10	.03	-.11	.14	-.02	-.09	.23	.23	.15	(.74)	
10. Intentions- Conscientiousness	13568.18	4105.72	-.01	-.23	.11	.11	-.05	.16	.18	.49	.41	(.86)

Note. N = 208. Correlations with an absolute value greater than .15 are significant at $p < .05$. Numbers in parentheses are Cronbach's alpha. Attachment styles, motivation to commit, and impression management were measured at time 1. The bases of commitment (compliance, identification, and internalization) and intentions were measured at time 2.

Table 10
Simultaneous Regressions of Bases of Commitment on Propensity Components

Variables	Beta	t	R	R ²
<i>Compliance</i>			.367 ***	.135 ***
Secure attachment style	-.23	-3.10 **		
Preoccupied attachment style	.10	1.29		
Motivation to commit	.01	0.17		
Impression management	-.21	-3.23 **		
<i>Identification</i>			.221 *	.049 *
Secure attachment style	-.08	-1.04		
Preoccupied attachment style	-.05	-0.65		
Motivation to commit	.21	3.02 **		
Impression management	-.04	-0.52		
<i>Internalization</i>			.092	.008
Secure attachment style	-.02	-0.26		
Preoccupied attachment style	-.05	-0.59		
Motivation to commit	.08	1.05		
Impression management	.00	0.07		

Note. N = 208

* p < .05, ** p < .01, *** p < .001

Table 11
Hierarchical Regressions of Intentions on Propensity Components and Commitment

Variables	Beta	t	R	R ²	ΔR ²
<i>Intent to be Punctual: Step 1</i>			.153	.023	
Compliance	.05	0.74			
Identification	-.05	-0.53			
Internalization	.10	1.02			
Impression management	.13	1.85			
<i>Intent to be Punctual: Step 2</i>			.291 *	.084 *	.061 **
Compliance	.07	1.01			
Identification	-.12	-1.23			
Internalization	.12	1.26			
Impression management	.12	1.69			
Secure attachment style	-.09	-1.14			
Preoccupied attachment style	-.16	-2.02 *			
Motivation to commit	.20	2.75 **			
<i>Intent to be Altruistic: Step 1</i>			.280 **	.078 **	
Compliance	-.13	-1.83			
Identification	.15	1.60			
Internalization	.14	1.52			
Impression management	-.05	-0.71			
<i>Intent to be Altruistic: Step 2</i>			.306 **	.094 **	.016
Compliance	-.12	-1.63			
Identification	.11	1.21			
Internalization	.15	1.62			
Impression management	-.06	-0.82			
Secure attachment style	-.05	-0.68			
Preoccupied attachment style	-.08	-1.08			
Motivation to commit	.09	1.33			

Table 11, continued

Variables	Beta	t	R	R ²	ΔR ²
<i>Intent to be Conscientious: Step 1</i>			.221 *	.049 *	
Compliance	-.04	-0.55			
Identification	.09	0.99			
Internalization	.12	1.24			
Impression management	.10	1.46			
<i>Intent to be Conscientious: Step 2</i>			.333 **	.111 **	.062 **
Compliance	-.02	-0.31			
Identification	.06	0.62			
Internalization	.12	1.33			
Impression management	.09	1.28			
Secure attachment style	-.15	-2.00 *			
Preoccupied attachment style	-.27	-3.51 ***			
Motivation to commit	.05	0.78			

Note. N = 208.

* $p < .05$, ** $p < .01$, *** $p < .001$

In supplemental analyses, we regressed the intentions on the set of commitment variables by themselves. The bases of commitment did not explain significant variance in intent to be punctual, but did account for significant variance in intent to be altruistic ($R^2 = .076$, $p < .01$) and intent to be conscientious ($R^2 = .039$, $p < .05$). We also ran regressions with the propensity components entered first and the commitment variables entered second. The bases of commitment explained unique variance in intent to be altruistic ($\Delta R^2 = .065$, $p < .01$), but did not account for variance in intent to be punctual or intent to be conscientious over and above variance accounted for by attachment styles and motivation to commit. These results support the conclusion that the bases of commitment do not, in general, mediate the relationship between propensity components and employee intentions.

Discussion

The central finding of study 3 is that, given knowledge of pre-employment attachment styles and motivation to commit, it is possible to predict the level and form of organizational commitment after three-and-a-half months (on average) on the job. This supports our conceptualization of attachment styles and motivation to commit as important components of commitment propensity. As we expected, people scoring higher on the secure attachment style were less likely to develop compliance as a basis of commitment than people scoring lower on secure attachment. Although the findings were more equivocal with respect to the preoccupied style, the correlational evidence indicated that individuals scoring higher on preoccupied attachment were more likely than those scoring lower to develop compliance. Also as expected, compared to people with less motivation to

commit, people with greater motivation to commit at time 1 developed higher levels of identification by time 2. Finally, as hypothesized, attachment styles and motivation to commit were poorer predictors of internalization than they were of compliance and identification.

There were some surprises too. Although we expected and found that internalization would be harder to predict than the other bases of commitment, we also hypothesized that motivation to commit would be positively associated with internalization. In fact, motivation to commit was not a significant predictor of internalization. Apparently it is more difficult to predict internalization than we believed, at least given the predictors included in this investigation. This leads us to suspect that situational factors, especially specific organizational values and the compatibility of those values with the values of newcomers, play a predominant role in the development of internalization.

A second surprise was that the bases of commitment did not entirely mediate the relationships between propensity components and employee intentions. As expected, attachment styles and motivation to commit did not, either as a set or individually, explain unique variance in intent to be altruistic. However, as a set, these variables did account for variance in intent to be punctual and intent to be conscientious over and above variance accounted for by the bases of commitment (and controlling for impression management). Further, controlling for all the other predictors, (1) the preoccupied attachment style explained unique variance in both intent to be punctual and intent to be conscientious, (2) the motivation to commit explained unique variance in intent to be punctual, and (3) the secure attachment style explained unique variance in intent to be conscientious. These results are incompatible with the notion that commitment mediates the effects of attachment style and motivation to commit on intentions.

Perhaps in addition to their link to intentions through organizational commitment, attachment styles and motivation to commit are tied to intentions through other means. For instance, in the literature on the Big Five personality traits (e.g., Goldberg, 1992; Shaver & Brennan, 1992), conscientiousness has been treated as a **stable dimension of personality**. It is possible that (1) **certain levels and forms of attachment foster or inhibit the inclination to be conscientious**, (2) conscientiousness, as a personality trait, affects intentions to engage in conscientious behavior, and (3) attachment styles are related to intent to engage in conscientious behavior through the association between attachment styles and conscientiousness. Interestingly, our regression results indicated that both the secure and preoccupied styles are negatively associated with the intent to be conscientious. Future work should examine the nature of these relationships more closely.

As another example, motivation to commit may affect intent to be punctual through group cohesiveness as well as through organizational commitment. The logic here is that people with a higher motivation to become committed may direct their desires toward the work group rather than (or in addition to) the organization. Once committed to a cohesive group, individuals' intentions may be affected by group norms and peer pressure. The plausibility of multiple links from attachment styles and motivation to commit to employee intentions to engage in important behaviors is further reason to continue studying commitment propensity.

One implication of the study is that researchers and practitioners interested in employee selection may be advised to consider including measures of commitment propensity as an employment tool. There are numerous techniques for evaluating a job applicant's ability or experience, but far fewer methods for predicting motivation. Our findings indicate that attachment styles and motivation to commit are valid predictors of organizational commitment and work-related intentions, both of which are motivational concepts. Another implication is that although attachment styles are likely to be quite stable across time, the motivation to commit may be more amenable to influence by organizational intervention. Through means such as socialization, teambuilding, and policy-making, employees' expectations that commitment will lead to valued outcomes may be raised. This provides a potentially fruitful avenue for enhancing commitment and motivation.

This work had a number of strengths. The study was based upon a more coherent theory of commitment propensity than was prior research, and we used longitudinal data from a fairly large sample to test key

propositions. Attachment styles and motivation to commit were measured prior to entry and commitment and intentions were measured several months after entry. This should reduce concerns that our findings were simply attributable to method variance or that the results were merely cross-sectional. There are limitations to the study as well. The design does not allow firm conclusions regarding causality, the drop-out rate was moderate, and our sample was composed primarily of young, white participants. Thus, extensions of our investigation are necessary to assess causality (e.g, via experimental design) and the generalizability of our results. Future research should also explore other possible components of commitment propensity and determine how far into the future organizational commitment can be predicted.

Our theory is that commitment propensity affects organizational commitment (and, possibly, other job attitudes) which, in turn, affects job-related intentions. Intentions have been shown to be strongly predictive of behavior in a wide range of situations, including organizational contexts (Becker et al., 1995; Prestholdt, Lane & Mathews, 1987; Sheppard, Hartwick & Warshaw, 1988). Because the relationship between commitment propensity and behavior is indirect, attachment styles and motivation to commit are unlikely to be strongly correlated with behavior. Nevertheless, to examine the theory in toto, future research should include behaviors as dependent variables.

In conclusion, we hope that this study encourages further theoretical and empirical work on the nature and effects of commitment propensity. Such work will lead to better theories of the development of employee commitment and a greater understanding of organizational behavior.

Study 4: Foci and Bases of Commitment and Performance

As noted above, commitment to the organization is positively related to such desirable outcomes as job satisfaction (Bateman & Strasser, 1984; Mowday, Porter, & Steers, 1982), motivation (Mowday, Steers, & Porter, 1979), and attendance (Mathieu & Zajac, 1990; Steers & Rhodes, 1978), and negatively related to such outcomes as absenteeism and turnover (Clegg, 1983; Cotton & Tuttle, 1986). However, the relationship between organizational commitment and job performance is more tenuous. For instance, Mathieu and Zajac's (1990) recent meta-analysis showed that the confidence interval around the mean correlation between organizational commitment and performance included zero. Thus, Mathieu and Zajac concluded that "commitment has relatively little direct influence on performance in most instances" (1990: 184).

The conclusion that commitment is largely unrelated to job performance is based upon the conventional view of commitment, which is that employee attachment involves "the relative strength of an individual's identification with and involvement in a particular organization" (Mowday et al., 1982: 27). In contrast to this conventional view, a number of theorists and researchers have begun to view employee commitment as having multiple foci and bases. Once again: foci of commitment are the individuals and groups to whom an employee is attached (Reichers, 1985), and bases of commitment are the motives engendering attachment (O'Reilly & Chatman, 1986).

It has been known for some time that employees may be committed to such foci as professions (Gouldner, 1958) and unions (Gordon, Beauvais, & Ladd, 1984), as well as to organizations (Mowday et al., 1982). Recent research has suggested that workers may also be differentially committed to occupations, top management, supervisors, co-workers, and customers (Becker, 1992; Meyer, Allen, & Smith, 1993; Reichers, 1986). In addition, as discussed in studies 1, 2, and 3, recent research has demonstrated that employee commitment may be predicated upon disparate motives (Allen & Meyer, 1990; Caldwell, Chatman, & O'Reilly, 1990; O'Reilly & Chatman, 1986) and distinguishing among foci and bases of commitment helps to explain variance in key dependent variables above and beyond that explained by commitment to the organization (Becker, 1992).

Although overall commitment to the organization appears to be largely unrelated to job performance, it is possible that there is a relationship between commitment as a multidimensional phenomenon and performance. For example, Meyer, Paunonen, Gellatly, Goffin, and Jackson (1989) found that affective commitment (an individual's identification and involvement with an organization) correlated .15 with a composite measure of performance while continuance commitment (a tendency to engage in consistent lines of activity because of the perceived cost of doing otherwise) correlated -.25 with performance. Although other research has not replicated these results (Hackett, Bycio, & Hausdorf, 1994; Mathieu & Zajac, 1990), the findings of Meyer and his colleagues leads us to consider other ways that certain dimensions of commitment may be associated with performance. However, prior to addressing this issue it is necessary to discuss the nature of employee commitment in a bit more depth.

The Structure of Employee Commitment

The previous section implies that employees typically distinguish among both foci and bases of commitment. However, the bulk of the research in this area has relied upon samples of workers within single organizations (see, for instance, Becker, 1992; Becker, Randall, & Riegel, 1995; and O'Reilly & Chatman, 1986). The generalizability of these studies is thus open to question. Further, factor analytic support for the distinction between identification and internalization is mixed. O'Reilly and Chatman's (1986) exploratory factor analysis supported the construct validity of the two constructs, as did exploratory factor analyses reported by Becker (1992), Harris, Hirschfield, Feild, & Mossholder (1993), and Vandenberg, Self, and Seo (1994). However, items intended to assess identification and internalization sometimes load on a single factor (study 2; Becker et al., 1995; Caldwell et al., 1990; Sutton & Harrison, 1993). Given the theoretical rationale for distinguishing between identification and internalization (Ashforth & Mael, 1989; Jahoda, 1956; Kelman, 1958; O'Reilly & Chatman, 1986), and the abundance of evidence that identification and internalization are empirically distinct bases of attitudes (Kelman, 1961; Kelman & Eagly, 1965; Klein, 1967; Romer, 1979; Smith, 1976), it is probably premature to dismiss the distinction between identification and internalization. This conclusion is bolstered by the findings that the bases of commitment are differentially related to other variables (Becker & Billings, 1993; Harris et al., 1993; O'Reilly & Chatman, 1986).

Nevertheless, the mixed findings do suggest that a closer, more rigorous look at the structure of employee commitment is needed. Therefore, in contrast to prior studies, this investigation will examine the structure of employee commitment using a large multi-organizational sample and confirmatory factor analysis. (Vandenberg and his colleagues (1994) also used confirmatory factor analysis to assess the structure of employee commitment. However, their study included employees within a single organization, did not include multiple foci of commitment, and did not include tests of differences in fit between models distinguishing among foci and bases of commitment and models not making these distinctions.) Given the above, we predicted,

Hypothesis 1: Employees distinguish among both foci and bases of commitment.

Employee Commitment and Job Performance

In retrospect, it is not surprising that overall commitment to an organization is largely unrelated to employee performance. A cogent theory for why identification with and involvement in an organization should directly promote job performance has not been developed. However, it seems to us that norms regarding in-role behaviors are often established by such local foci as supervisors and work groups. If so, then commitment to local foci should lead to an acceptance of performance norms. This logic is supported by research linking group norms to employee behaviors (e.g., George, 1990; Mathieu & Kohler, 1990). Although some authors have argued that commitment to the organization mediates the effects of commitment to other foci (Hunt & Morgan, 1994), field theory (Lewin, 1943) suggests that psychologically proximal factors in the environment should have a dominant effect on behavior. We suspect that, for most employees, local foci are psychologically more proximal than are global foci.

Further, because of their proximity and regular interaction with employees, local foci are probably more effective than global foci in monitoring, rewarding, and influencing employee behavior. Proximity and regular interaction also make it easier for employees to seek and receive feedback on actions consistent with the values and goals of local foci. Support for this logic exists in the findings of Meglino, Ravlin, and Adkins, who concluded that "the object of <employee value> congruence did not appear to be the cultural values of the organization, but the values of each worker's supervisor" (1989: 431). Given that monitoring and improving employee performance is an explicit function of supervision (Yukl, 1989), supervisors are more likely to actively create and promote performance norms than are work groups. Thus, in this study, we assessed commitment to the organization and supervisor. Given the above discussion, we predicted,

Hypothesis 2: Overall commitment to the supervisor is positively related to job performance, and is more strongly linked to performance than is overall commitment to the organization.

Because the purpose of identification is to facilitate interpersonal relations, commitment based on identification should predict performance only if interpersonal relationships are contingent upon performance levels. Given that most organizational members are unlikely to make their relationship with a particular employee contingent upon performance, commitment based on identification would not generally be expected to increase performance. Even organizations and supervisors are unlikely to make their relationship with the employee entirely contingent upon the employee's performance, at least as long as performance meets some minimally acceptable standard. After all, as long as the employee is a member of an organization, the nature of work typically mandates that organizational members and supervisors maintain reasonably cordial relations. Thus, we would not expect commitment based on identification to be strongly tied to job performance.

Although this line of reasoning may seem contradictory to the theory of leader-member exchange, we do not believe our logic contravenes the theory. Theory and research on leader-member exchange suggests that factors other than subordinate performance (e.g., personal compatibility between supervisor and subordinate, subordinate friendliness) substantially influence the relationships between supervisors and subordinates (Dansereau, Graen, & Haga, 1975; Cashman, Dansereau, Graen, & Haga, 1976; Yukl, 1989). Also, the literature on leader - member exchange demonstrates that once a subordinate is classified into an in-group or out-group the relationship between the supervisor and subordinate depends on factors other than subordinate performance (Yukl, 1989). Thus, we believe that the theory of leader - member exchange does not require that employee identification be tied to performance.

In contrast, commitment based on the internalization of goals and values seems likely to predict performance. Goal-setting literature demonstrates that commitment to specific, difficult goals leads to high performance (e.g., Hollenbeck & Klein, 1987; Locke, Shaw, Saari, & Latham, 1981). Foci who value performance would presumably be more likely to set such goals. We suspect that nearly all organizations and supervisors value worker performance and that many identify performance objectives for employees. Thus, employees who are highly committed to their organization and supervisor and who internalize the values and goals of these foci can be expected to perform at a higher level than employees with less commitment. Therefore,

Hypothesis 3: Commitment based on internalization is positively related to job performance, and is more strongly linked to performance than is commitment based on identification.

Method

Survey Methodology and Respondents

We sent questionnaires to all 1803 members of the graduating class of May, 1993, of Washington State University (this is the same sample as used in study 1A). This questionnaire asked respondents for demographic information and assessed respondents with respect to their general tendency to manage impressions and a

number of other variables not relevant to the current study. Following three follow-up mailings, 1217 usable questionnaires (67.5%) were returned to us through regular mail. Six months later (time 2), we sent another questionnaire to the 1217 individuals who responded at time 1. This questionnaire measured the foci and bases of commitment. Following three follow-up mailings, 912 usable questionnaires were returned (a time 2 response rate of 74.9 percent and an overall response rate of 50.6 percent). Of these 912 individuals, 522 were employed full- or part-time. Due to missing data on some of the time 2 variables, 469 respondents (89.8 percent of employed members of the time 2 sample and 51.4 percent of all time 2 respondents) were used in the confirmatory factor analysis of commitment items.

One section of the time 2 questionnaire asked respondents for permission to contact their supervisors. Respondents who consented supplied us with the names and addresses of their supervisors; 355 supervisors were thus identified. We then sent a survey to these supervisors asking them to evaluate the job performance of the graduates. Following three follow-up mailings, 315 supervisors (88.7%) returned usable questionnaires. The minimum time period separating time 2 respondent data from supervisory data was 18 weeks; the maximum interval was 28 weeks. Due to missing data on some of the variables, 281 respondents (89 percent of those for whom we had supervisory data and 31 percent of time 2 respondents) were used in our analyses involving commitment and performance.

Respondents used in our analyses ranged in age from 21 to 60 with a median of 24 years; 55.1% of the respondents were female. With respect to ethnicity, 85.5 percent of respondents were Caucasian, 2.0 percent Hispanic, and 4.2 percent Asian; less than 2 percent classified themselves as Black or Native American. Undergraduate degrees were received by 93.8 percent of respondents, while 5.1 percent received professional degrees, and 1.1 percent received other graduate degrees. At time 1, 52.8 percent of respondents were employed full-time and 14.4 percent were employed part-time; 1.7 percent were self-employed and 18.1 percent were unemployed. At time 2, 61.3 percent of respondents were employed full-time and 15.3 percent were employed part-time; 1.7 percent were self-employed and 16.7 percent were unemployed. The typical respondent was with his or her organization for 11.6 months at time 2, worked with six to ten other employees, and worked in a medium-sized company.

To examine the effects of the drop-out rate we compared respondents used in our analyses to the rest of the sample (respondents and non-respondents), non-respondents (i.e., those for whom no surveys were returned), all other respondents (i.e., those who returned the time 1 survey, time 2 survey, or both), and other time 2 respondents. Respondents used in the analyses and other subsets of the sample were very similar. Differences, where they existed, tended to be quite small.

Measures

Foci and bases of commitment. The time 2 questionnaire measured commitment to the organization and immediate supervisor using the items developed and used by Becker (1992). Five items were used to measure identification with respect to each focus: (1) "When someone criticizes <my supervisor, this organization>, it feels like a personal insult," (2) "When I talk about <my supervisor, this organization>, I usually say 'we' rather than 'they,'" (3) "<My supervisor's, this organization's> successes are my successes," (4) "When someone praises <my supervisor, this organization>, it feels like a personal compliment," and (5) "I feel a sense of 'ownership' for <my supervisor, this organization>." Four items were used to measure internalization with respect to each focus: (1) "If the values of <my supervisor, this organization> were different, I would not be as attached to <my supervisor, this organization>," (2) "My attachment to <my supervisor, this organization> is primarily based on the similarity of my values and those represented by <my supervisor, the organization>," (3) "Since starting this job, my personal values and those of <my supervisor, this organization> have become more similar," and (4) "The reason I prefer <my supervisor, this organization> to others is because of what <he or she, it> stands for, that is, <his or her, its> values." Responses were given on a seven-point scale ranging from "strongly disagree" to "strongly agree."

Based on the confirmatory factor analysis described below, we developed four scales: supervisor-related identification, supervisor-related internalization, organizational identification, and organizational internalization. Scores on these scales were derived by averaging across items. Overall commitment to the supervisor was calculated by summing across the supervisor-related identification and supervisor-related internalization items. Similarly, overall commitment to the organization was calculated by summing across the organizational identification and internalization items. Thus, parallel items were used to assess overall commitment to each focus, i.e., the wording of the items were identical except for the specification of the focus (supervisor versus organization). Overall identification-based commitment was indexed by summing across the supervisor-related identification and organizational identification items, and overall internalization-based commitment was measured by summing across the supervisor-related internalization and organizational internalization items.

Performance. Job performance was evaluated by the respondents' immediate supervisors. Performance was assessed via six items. The following three items were assessed along a five-point scale from "never" to "always:" (1) "Completed work in a timely and effective manner," (2) "Performed high-quality work," and (3) "Completed tasks in an unsatisfactory manner" (reverse-coded). The remaining items were assessed along a seven-point scale from "unsatisfactory" to "extremely satisfactory": (4) "Quality of work," (5) "Quantity of work," and (6) "Overall performance." Factor analyses indicated that the six items loaded clearly on one factor. Therefore, scale scores were computed by summing across the appropriate items.

Impression management. There is evidence that subordinates can and do manage the impressions of their supervisors (Deluga, 1991; Fandt & Ferris, 1990). Because we assessed performance via supervisory ratings, and because these ratings could conceivably be affected by respondents' general tendency to manage impressions, we decided to statistically control for respondents' impression management. We considered this a particularly important decision in light of our interest in the relationship between commitment to the supervisor and performance.

To measure respondents' tendency to manage impressions, we used the 20-item scale developed by Paulhus (Paulhus, 1984, 1988). This measure was included in our time 1 questionnaire. Examples of items are (1) "I never cover up my mistakes," and (2) "I have taken sick-leave from work or school even though I wasn't really sick" (reverse-coded). Responses were given on a seven-point scale from "not true" to "very true." Factor analyses demonstrated that all the items loaded on one factor. Thus, scale scores were computed by summing across all 20 items.

Demographic variables. The time 1 questionnaire asked the respondents about their age and gender, and the time 2 questionnaire asked respondents how long they had worked for their current employer. These variables were selected for inclusion in our analyses because prior research has tied them to commitment phenomena (Fry & Greenfeld, 1980; Luthans, McCaul, & Dodd, 1985; Morrow & McElroy, 1987). Thus, we treated these factors as control variables.

Analysis Strategy

Structure of employee commitment. We used LISREL 8 (Joreskog & Sorbom, 1993) to conduct confirmatory factor analyses of the structure of responses to the commitment items. To determine whether employees in our sample distinguished between both foci and bases of commitment, we developed four models: (1) a one-factor model specifying a single underlying construct, (2) a two-factor model specifying identification and internalization as underlying constructs but ignoring the foci of commitment, (3) a two-factor model specifying commitment to the supervisor and organization as underlying constructs but ignoring the bases of commitment, and (4) a four-factor model specifying both foci and bases of commitment (i.e., identification and internalization vis a vis both supervisors and organizations). We then compared these models using both goodness-of-fit indices and significance tests of nested models. We opted to use the root mean square residual, normed fit index, comparative fit index, and the incremental fit index as goodness-of-fit measures because evidence suggests that these indices are unbiased and relatively independent of sample size (Bentler, 1990;

Joreskog & Sorbom, 1993; McDonald & Marsh, 1990). Our decision rules were that, to indicate a good fit, the root mean square residual had to be equal to or less than .05 and the other fit indices had to be greater than .85.

Commitment and performance. To fully examine the relationship between commitment and performance we ran four regressions. The first regressed performance on the control variables (demographic factors and impression management). This allowed us to examine the variance in performance accounted for by the control variables individually and as a set. The results of this analysis were also used as a point of reference for comparing the amount of variance accounted for by sets of variables containing both the control variables and different forms of commitment. If sets of variables distinguishing among foci of commitment, bases of commitment, or both do not explain variance in performance beyond that explained by the control variables alone, then the distinctions among different forms of commitment would be less meaningful.

Second, we regressed performance on a set of variables including the control factors and overall commitment to the organization and supervisor (disregarding the bases of commitment). This allowed us to (1) determine if the foci of commitment, as a set, explained variance above and beyond that explained by the control variables, and (2) test Hypothesis 2. Third, we regressed performance on a set of variables including the control factors and commitment based on identification and internalization (disregarding the foci of commitment). This allowed us to (1) determine if the bases of commitment, as a set, explained variance above and beyond that explained by the control variables, and (2) test Hypothesis 3. Finally, we regressed performance on a set of variables including the control factors and variables distinguishing among both foci and bases of commitment. This allowed us to determine (1) if the foci and bases of commitment, as a set, explained variance above and beyond that explained by the control variables, and (2) whether distinctions among both foci and bases of commitment are useful in explicating the relationship between commitment and performance.

Results

Table 12 contains the descriptive statistics and alphas for all variables. Because the distribution of performance was negatively skewed and leptokurtic, performance data were transformed by cubing each participant's score. This procedure produced a more normally distributed set of scores appropriate for use in the analyses discussed below.

The Structure of Employee Commitment

Hypothesis 1. Hypothesis 1 is that employees distinguish among both foci and bases of commitment. Table 13 contains the goodness-of-fit of each of the four confirmatory factor analysis models. As can be seen, only the four-factor model (distinguishing among both foci and bases of commitment) provides a relatively good fit to the data. In addition, the four factor-model provided a significantly better fit to the data than the model distinguishing among neither foci nor bases, $\chi^2_{diff}(6) = 1493.56$, $p < .01$, and also fit better than either the two-factor model specifying foci only, $\chi^2_{diff}(5) = 603.98$, $p < .01$, or the two-factor model specifying bases only, $\chi^2_{diff}(5) = 1165.19$, $p < .01$. These findings support Hypothesis 1.

Commitment and Performance

Hypothesis 2. This hypothesis states that overall commitment to the supervisor is positively related to performance and is more strongly linked to performance than is overall commitment to the organization. As Table 12 shows, overall commitment to the supervisor is significantly and positively related to performance ($r = .16$, $p < .05$). This supports the first part of the hypothesis. Consistent with prior research, overall commitment to the organization is not significantly correlated with performance ($r = .07$, n.s.).

Table 12
Descriptive Statistics and Correlations ^a

Variable	Means	s.d.	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Age	26.26	5.74													
2. Gender	1.43	0.50	-.07												
3. Tenure	12.19	30.89	.58	-.12											
4. Impression management	4.32	0.87	.04	-.10	-.02										
5. Supervisor-related identification	3.76	1.30	-.06	-.01	-.05	.08	(.85)								
6. Supervisor-related internalization	4.14	1.42	-.04	-.16	.03	.11	.65	(.84)							
7. Organizational identification	4.81	1.41	-.10	.01	-.07	.05	.53	.34	(.89)						
8. Organizational internalization	4.40	1.44	-.04	-.10	-.06	.08	.48	.56	.72	(.88)					
9. Supervisor	3.92	1.23	-.06	-.08	-.02	.11	.92	.89	.49	.57	(.89)				
10. Organization	4.63	1.33	-.08	-.04	-.07	.07	.55	.47	.94	.91	.57	(.92)			
11. Identification	4.29	1.19	-.10	.00	-.07	.08	.86	.55	.89	.70	.79	.86	(.89)		
12. Internalization	4.29	1.26	-.04	-.14	-.02	.11	.63	.87	.61	.89	.81	.79	.71	(.88)	
13. Performance	140.58	50.21	-.06	-.12	-.01	-.05	.14	.16	.09	.04	.16	.07	.14	.10	(.91)

^a N = 281 (listwise deletion of missing values). Sex is coded 0 = female, 1 = male. Correlations with absolute values greater than .11 are significant at .05. Numbers in parentheses are Cronbach's alpha.

Table 13
Results of Confirmatory Factor Analyses

Model	χ^2	df	RMR	NFI	CFI	IFI
One-factor	2146.92	135	.13	.59	.61	.61
Two-factor (bases only)	1818.55	134	.12	.66	.67	.67
Two-factor (foci only)	1257.34	134	.08	.76	.78	.78
Four-factor (foci and bases)	653.36	129	.05	.88	.90	.90

Note. N = 469 (listwise deletion). RMR = root mean square residual, NFI = normed fit index, CFI = comparative fit index, IFI = incremental fit index.

We used simultaneous regression to determine if, after partialling out the control variables, (1) the relationship between overall commitment to the supervisor and performance remains, and (2) overall commitment to the supervisor is more strongly associated with performance than is overall commitment to the organization. The results are shown in Table 14, step 2A. After controlling for demographic variables, impression management, and overall commitment to the organization, the standardized regression weight for overall commitment to the supervisor is significant ($\beta = .18$, $p < .05$). This demonstrates that a positive relationship between commitment to the supervisor and performance remains after controlling for other factors. A test of the difference between the regression weight for overall commitment to the supervisor ($\beta = .18$) and the regression weight for overall commitment to the organization ($\beta = -.03$) shows that this difference is significant, $t(274) = 1.99$, $p < .05$. This supports Hypothesis 2.

Hypothesis 3. Hypothesis 3 is that commitment based on internalization is positively related to performance, and is more strongly linked to performance than is commitment based on identification. As Table 12 shows, commitment based on internalization (without regard to foci) is positively but only marginally correlated with in-role performance ($r = .10$, $p < .10$). This offers weak support for the first part of the hypothesis. Interestingly, commitment based on identification is significantly correlated with in-role performance ($r = .14$, $p < .05$).

We used simultaneous regression to determine if, after partialling out the control variables, (1) a significant relationship between commitment based on internalization and performance remains, and (2) commitment based on internalization is more strongly associated with performance than is commitment based on identification. Step 2B of Table 14 shows the results. After controlling for demographic variables, impression management, and commitment based on identification, the standardized regression weight for commitment based on internalization is not significant ($\beta = -.01$, n.s.). Further, the regression weight for commitment based on internalization ($\beta = -.01$) was not greater than the regression weight for commitment based on identification ($\beta = .15$). These findings do not support Hypothesis 3.

We also ran regressions without controlling for demographic variables and impression management. The conclusions were identical to the tests including the control variables.

Table 14
Results of Regression Analyses

Variables	R ²	ΔR ²	F	β	t	β _r	R ² _r
<i>Step 1: Control Variables</i>	.021	---	1.51				.021
Age				-.07	-0.98	-.06	
Gender				-.13	-2.08*	-.11	
Tenure				.01	0.20	.01	
Impression management				-.06	-0.96	-.05	
<i>Step 2A: Foci of Commitment</i>	.047	.026	3.74*				.046
Age				-.06	-0.82	-.05	
Gender				-.11	-1.89+	-.10	
Tenure				.01	0.13	.01	
Impression management				-.07	-1.24	-.07	
Supervisor				.18	2.45*	.15	
Organization				-.03	-0.44	-.02	
<i>Step 2B: Bases of Commitment</i>	.040	.019	2.71*				.039
Age				-.06	-0.83	-.05	
Gender				-.13	-2.08*	-.11	
Tenure				.02	0.25	.01	
Impression management				-.07	-1.13	-.06	
Identification				.15	1.72+	.12	
Internalization				-.01	-0.15	.01	
<i>Step 2C: Foci and Bases of Commitment</i>	.061	.040	2.90*				.059
Age				-.04	-0.55	-.04	
Gender				-.12	-1.94+	-.11	
Tenure				-.01	-0.09	.00	
Impression management				-.07	-1.25	-.07	
Supervisor-related identification				.04	0.48	.06	
Supervisor-related internalization				.18	1.99*	.13	
Organizational identification				.15	1.60	.10	
Organizational internalization				-.20	-2.02*	-.13	

Note. N = 281 (listwise deletion of missing values). ΔR² is the amount of variance in performance accounted for by the sets of commitment variables over and above the control variables. β_r is the regression coefficient from the ridge regressions, and R²_r is the amount of variance explained in the ridge regressions.

+ p < .10, * p < .05

Ancillary Analyses

Distinguishing among both foci and bases of performance. Our findings in the previous section did not support Hypothesis 3. To further determine whether distinctions among both foci and bases of commitment are necessary to explain the commitment - performance relationship, we regressed performance on a set of variables distinguishing among both foci and bases of commitment. The results are shown in Table 14, step 2C. After controlling for the demographic variables, impression management, and other forms of commitment, commitment based on internalization vis a vis the supervisor is positively and significantly related to performance ($\beta = .18, p < .05$). Surprisingly, after controlling for these variables, organizational internalization is significantly and negatively related to performance ($\beta = -.20, p < .05$). Further, in comparing steps 2B and 2C in Table 14, it is clear that failing to distinguish among foci of commitment obscures the findings that it is internalization, not identification, vis a vis the supervisor and organization that accounts for unique variance in performance.

Ridge regressions. A number of the independent variables in our prior analyses were significantly and rather strongly intercorrelated. This raised the issue of multicollinearity and the accompanying concern that some of our estimates of R^2 and regression weights might be imprecise (Cohen & Cohen, 1983). Therefore, we recalculated these estimates using ridge regression, a technique designed to remedy multicollinearity problems by modifying the method of least squares (Myers, 1990; Neter, Wasserman, & Kutner, 1990).

The results are shown in the right-hand columns of Table 14. In comparing R^2 and R^2_r in these tables, it is apparent that multicollinearity had very little effect on the amount of variance in performance explained by the various sets of variables. In comparing β and β_r for the simultaneous regressions, it is also clear that multicollinearity did not seem to greatly affect the regression coefficients. With ridge regression, ordinary inference procedures are not applicable and exact distributional properties are not known (Neter et al., 1990). Therefore, significance tests for ridge estimates (R^2_r and β_r) are not available. Nevertheless, the relative magnitudes of the ridge estimates appear consistent with our previous analyses and tend to support our hypotheses. Most importantly, the ridge regressions indicate that multicollinearity was probably not a serious problem in the prior analyses.

Discussion

One important result of this work is confirmation that employees in many organizations distinguish between commitment to the supervisor and commitment to the organization, and between identification and internalization as bases of commitment to these two foci. This in itself is a meaningful finding because it validates the multidimensional view of commitment in a manner more rigorous than that characteristic of prior research. We hope that this encourages researchers and practitioners to take a more differentiated view of employee commitment.

In addition, prior research has concluded that the link between commitment and performance is largely non-existent (Mathieu & Zajac, 1990; Mowday et al., 1982). Results of the current study challenge this conclusion by demonstrating that certain forms of commitment are related to performance in predictable and meaningful ways. Although we found that overall commitment to the organization was uncorrelated with performance, we also found, as expected, that overall commitment to the supervisor was positively and significantly associated with performance. Further, as predicted, commitment to the supervisor was more strongly linked to performance than was commitment to the organization. Also, commitment based on internalization of supervisory and organizational values was related to performance (albeit in opposite directions for the two foci) while commitment based on identification with these foci was not.

One implication of these results is that researchers and human resource professionals concerned with employee performance should focus their efforts on commitment to supervisors rather than to organizations. For instance, previous authors have identified propensity to become committed to the organization as a variable

that could be used in hiring employees (study 3; Lee, Ashford, Walsh, & Mowday, 1992). Our results suggest that propensity to become committed to the supervisor (especially based on internalizing the supervisor's values) would be a more valid predictor of performance. As another example, prior research has suggested that organizational commitment can be enhanced via changes in job design and other organizational attributes (e.g., Colarelli, Dean, & Konstans, 1987; Fried & Ferris, 1987). Our results suggest that enhancing commitment to the supervisor's goals and values (e.g., via leadership training, socialization, and teambuilding) would affect performance to a greater extent than would increasing commitment to the organization.

This study also suggests that commitment based on internalization rather than identification is most relevant to job performance. Widely used measures such as the Organizational Commitment Questionnaire and the Affective Commitment Scale emphasize commitment based on identification (Porter, Steers, Mowday, & Boulian, 1974; Meyer & Allen, 1984). Researchers interested in predicting and explaining performance may be well advised to avoid such measures and, instead, use instruments designed to index commitment based on internalization.

A final implication of our results pertains to the theory of commitment - behavior relations. In the current study, the effects of commitment to supervisors were not mediated by commitment to the organization: Commitment to the supervisor was related to performance even after commitment to the organization was partialled from the relationship. This is contrary to the theory of previous authors (Hunt & Morgan, 1994) but is consistent with our theory that local foci are psychologically more proximal to employees and, therefore, have a greater impact on behavior in organizations. Future research should examine this theory with respect to different dependent variables (e.g., absenteeism, turnover, citizenship behaviors).

One surprising finding was that, after controlling for internalization of supervisory goals and values, organizational internalization was negatively related to performance. We speculate that this relationship can be explained by the conflicting values and goals sometimes held by supervisors and organizations (Reichers, 1985; 1986) and by our measure of performance. To the extent that organizations and supervisors hold identical values, internalizing a supervisor's values is the same as internalizing the organization's values. However, to the extent that the two sets of values conflict, partialling out the supervisor's values leaves those organizational values which are not consistent with those of the supervisor. Therefore, once internalization of the supervisor's values are statistically controlled, it is not surprising that supervisory ratings of performance are negatively related to internalization of the organization's values. Supervisors could be expected to rate those employees lower who hold values that conflict with those of the supervisor. Because this explanation is supposition and cannot be tested with the current data, future research should further examine the nature and extent of conflicting values between supervisors and organizations. In addition, because supervisory ratings may reflect some degree of bias, we suggest that a replication of our results using multiple performance criteria would be useful.

These caveats being understood, our findings should not be impugned on the basis of our operationalization of performance. For example, one might assert that commitment to the supervisor, but not organization, was related to performance because of response bias in supervisor ratings. However, if supervisor ratings were biased toward employees who manipulated their supervisors' impression of commitment, then controlling for employees' tendencies to manage impressions should have partialled out this effect. Further, if other supervisory biases accounted for the observed relationships between commitment and performance, then supervisor ratings should have been related to both supervisor-related identification and internalization. In fact, after controlling for other variables, supervisor-related identification was unrelated to performance ratings.

The tests of Hypotheses 2 and 3 involved comparing the relationships of different types of commitment with performance. As Cooper and Richardson (1986) noted, in comparing the strength of relationships among variables it is important that the underlying constructs be equally well-operationalized and measured. We used measures that were closely linked to the definitions of the major forms of commitment, and data on all the measures were gathered via an identical process (i.e., questionnaire administration). Also, items measuring

commitment to supervisors and organizations were parallel in structure (i.e., the same items were used with only the target of commitment differing among the two sets of items). Thus, we believe we have taken reasonable steps to ensure procedural equivalence with respect to the key variables. All of our commitment scales were reliably measured, scores on each measure were approximately normally distributed, and the variability of the scales was quite similar. This provides support for the distributional equivalence of the variables. Together, the evidence for procedural and distributional equivalence in this study lead us to assert that the tests of our hypotheses, although certainly not perfect, were reasonably impartial.

Nevertheless, the generalizability of our results is unlikely to be universal. Although our respondents were employed in many different organizations, the sample was composed of recent college graduates who were young, mostly white, and who had not been with their companies for very long. Also, although the respondents used in our analyses and the rest of the sample were similar in many respects, there were several differences (see our fourth footnote). These differences were generally quite small but, regardless, create the possibility that some of our findings may not be generalizable to our entire sample.

A final issue regards the amount of variance in job performance explained by employee commitment. After controlling for certain demographic factors and impression management, the commitment variables as a set accounted for four percent of the variability in performance. Although this is only a modest amount of variance explained, the issue of degree of explained variance can be misleading (Campbell, 1990). While we would not go as far as Campbell in calling this a "false issue" (1990: 56), we do agree with his point that variance explained must be interpreted within the realm of a given research domain. Had the purpose of this study been to explain variance in performance we would certainly have included a whole host of variables (e.g., cognitive ability, goal difficulty) not contained in the present investigation. However, the objectives of this study were to examine the links between different types of commitment and performance and to test three specific hypotheses. Because these are important objectives in the realm of research on employee commitment, our findings are pertinent and valuable to the literature on commitment - performance relationships.

General Discussion and Conclusions

The discussions following each study describe our specific conclusions and recommendations regarding the research and its implications for theory, research, and practice. Here, we simply want to underscore several fundamental points. The body of work described in this report has furthered the literature on employee commitment by developing and partially testing a model of the proximal antecedents and consequences of commitment. Re-examining Figure 1 (on p. 3 of this document) in light of the research conducted as part of this project, we can draw several broad conclusions:

1. Dispositional variables (including attachment styles) do, in fact, predict employee commitment and other job attitudes.
2. Different dispositional factors predict certain foci and bases of commitment.
3. Commitment propensity can be effectively conceptualized from an expectancy-theory perspective and, when considered in this manner, is a significant predictor of certain forms of commitment (especially identification with the organization).
4. Commitment does predict employee intentions but, contrary to the initial model, does not entirely mediate the effect of commitment propensity on intentions.
5. Certain foci and bases of commitment do predict employee performance.

The research conducted under this contract has also furthered the scientific knowledge of employee commitment by developing psychometrically sound measures of key variables, including attachment styles, motivation to commit, foci and bases of commitment, and work-related intentions. These measures should be useful in future work.

Later investigations should pursue our line of inquiry by attempting to increase the extent to which commitment can be predicted prior to employment, and further elucidating the ways in which various forms of commitment affect specific intentions and behaviors. Another potentially fruitful direction for future work involves the possibility of enhancing certain forms of commitment once individuals are admitted to an organization. Through such efforts, a truly meaningful and useful knowledge of organizational behavior can be attained.

References

- Ainsworth, M. D. S. (1982). Attachment: Retrospect and prospect. In C. M. Parkes & J. Stevenson-Hinde (Eds.), The place of attachment in human behavior (pp. 3-30). New York: Basic Books.
- Ainsworth, M. D. S. (1989). Attachments beyond infancy. American Psychologist, *44*, 709-716.
- Ainsworth, M. D. S., Blehar, M. C., Waters, E., & Wall, S. (1978). Patterns of attachment. Hillsdale, NJ: Erlbaum.
- Ajzen, I. (1989). Attitude structure and behavior. In A. Pratkanis, S. Breckler, & A. Greenwald (Eds.), Attitude structure and function (pp. 241-274). Hillsdale, NJ: Erlbaum.
- Ajzen, I., & Fishbein, M. (1980). Understanding attitudes and predicting social behavior. Englewood Cliffs, NJ: Prentice-Hall.
- Alderfer, C. P. (1969). A new theory of human needs. Organizational Behavior and Human Performance, *4*, 142-175.
- Allen, N. J., & Meyer, J. P. (1990). The measurement and antecedents of affective, continuance and normative commitment to the organization. Journal of Occupational Psychology, *63*, 1-18.
- Arnold, H. J., & Feldman, D. J. (1982). A multivariate analysis of the determinants of job turnover. Journal of Applied Psychology, *67*, 350-360.
- Arvey, R. D., Bouchard, T. J., Segal, N. L., & Abraham, L. M. (1989). Job satisfaction: Environmental and genetic components. Journal of Applied Psychology, *74*, 187-192.
- Ashforth, B. E., & Mael, F. (1989). Social identity theory and the organization. Academy of Management Review, *14*, 20-39.
- Baldwin, M. W., Fehr, B., Keedian, E., Seidel, M., & Thomson, D. W. (1993). An exploration of the relational schemata underlying attachment styles: Self-report and lexical decision approaches. Personality and Social Psychology Bulletin, *19*, 746-754.
- Barrick, M. R., & Mount, M. K. (1991). The Big Five personality dimensions and job performance: A meta-analysis. Personnel Psychology, *44*, 1-26.
- Bartholomew, K. (1990). Avoidance of intimacy: An attachment perspective. Journal of Social and Personal Relationships, *7*, 147-178.
- Bartholomew, K., & Horowitz, L. M. (1991). Attachment styles among young adults: A test of a four-category model. Journal of Personality and Social Psychology, *61*, 226-244.
- Bateman, T. S., & Strasser, S. (1984). A longitudinal analysis of the antecedents of organizational commitment. Academy of Management Journal, *27*, 95-112.
- Becker, T. E. (1992). Foci and bases of commitment: Are they distinctions worth making? Academy of Management Journal, *35*, 232-244.
- Becker, T. E., & Billings, R. S. (1993). Profiles of commitment: An empirical test. Journal of Organizational Behavior, *14*, 177-190.

- Becker, T. E., Billings, R. S., Eveleth, D. M., & Gilbert, N. W. (in press). Foci and bases of commitment: Implications for job performance. Academy of Management Journal.
- Becker, T. E., Randall, D. M., & Riegel, C. D. (1995). The multidimensional view of commitment and the theory of reasoned action: A comparative evaluation. Journal of Management, 21, 617-638.
- Bentler, P. M. (1990). Comparative fit indexes in structural models. Psychological Bulletin, 107, 238-246.
- Bentler, P. M., & Bonett, D. G. (1980). Significance tests and goodness of fit in the analysis of covariance structures. Psychological Bulletin, 88, 588-606.
- Bluedorn, A. C. (1982). A unified model of turnover from organizations. Human Relations, 35, 135-153.
- Bowlby, J. (1969). Attachment and loss: Attachment. New York: Basic Books.
- Bowlby, J. (1973). Attachment and loss: Separation, anxiety and anger. New York: Basic Books.
- Bowlby, J. (1980). Attachment and loss: Sadness and depression. New York: Basic Books.
- Brennan, K. A., & Shaver, P. R. (1993). Attachment styles and parental divorce. Journal of Divorce and Remarriage, 21, 161-175.
- Brennan, K. A., Shaver, P. R., & Tobey, A. E. (1991). Attachment styles, gender and parental problem drinking. Journal of Social and Personal Relationships, 8, 451-466.
- Bretherton, I. (1992). The origins of attachment theory: John Bowlby and Mary Ainsworth. Development Psychology, 28, 759-775.
- Brief, A. P., & Motowidlo, S. J. (1986). Prosocial organizational behaviors. Academy of Management Review, 11, 710-725.
- Bruning, N. S., & Snyder, R. A. (1983). Sex and position as predictors of organizational commitment. Academy of Management Journal, 26, 485-491.
- Caldwell, D. F., Chatman, J. A., & O'Reilly, C. A., III. (1990). Building organizational commitment: A multi-firm study. Journal of Occupational Psychology, 63, 245-261.
- Campbell, J. P. (1990). The role of theory in industrial and organizational psychology. In M.D. Dunnette and L.M. Hough (Eds.), Handbook of industrial and organizational psychology: Vol. 1 (2nd ed) (pp. 39-73). Palo Alto, CA: Consulting Psychologists Press.
- Cashman, J., Dansereau, F., Jr., Graen, G., & Haga, W. J. (1976). Organizational understructure and leadership: A longitudinal investigation of the managerial role-making process. Organizational Behavior and Human Performance, 15, 278-296.
- Cattell, R. B. (1957). Personality and motivation structure and measurement. Yonkers-on-Hudson: World Book.
- Clegg, C. W. (1983). Psychology of employee lateness, absence, and turnover: A methodological critique and an empirical study. Journal of Applied Psychology, 68, 88-101.

- Cohen, J., & Cohen, P. (1983). Applied multiple regression/correlation analysis for the behavioral sciences (2d ed.). Hillsdale, NJ: Erlbaum.
- Colarelli, S. M., Dean, R. A., & Konstans, C. (1987). Comparative effects of personal and situational influence on job outcomes of new professionals. Journal of Applied Psychology, 72, 558-566.
- Collins, N. L., & Read, S. J. (1990). Adult attachment, working models, and relationship quality in dating couples. Journal of Personality and Social Psychology, 58, 644-663.
- Cooper, W. H., & Richardson, A. J. (1986). Unfair comparisons. Journal of Applied Psychology, 71, 179-184.
- Cotton, J. L., & Tuttle, J. M. (1986). Employee turnover: A meta-analysis and review with implications for research. Academy of Management Review, 11, 55-70.
- Cropanzano, R., & James, K. (1990). Some methodological considerations for the behavioral genetic analysis of work attitudes. Journal of Applied Psychology, 75, 433-439.
- Dansereau, F., Jr., Graen, G., & Haga, W. J. (1975). A vertical dyad linkage approach to leadership within formal organizations: A longitudinal investigation of the role-making process. Organizational Behavior and Human Performance, 13, 46-78.
- Davis-Blake, A., & Pfeffer, J. (1989). Just a mirage: The search for dispositional effects in organizational research. Academy of Management Review, 14, 385-400.
- Deluga, R. J. (1991). The relationship of upward-influencing behavior with subordinate impression management characteristics. Journal of Applied Social Psychology, 21, 1145-1160.
- Duggan, E. S., Brennan, K. A. (1994). Social avoidance and its relation to Bartholomew's adult attachment typology. Journal of Social and Personal Relationships, 11, 147-153.
- Fandt, P. M., & Ferris, G. R. (1990). The management of information and impressions: When employees behave opportunistically. Organizational Behavior and Human Decision Processes, 45, 140-158.
- Feeney, J. A., & Noller, P. (1990). Attachment style as a predictor of adult romantic relationships. Journal of Personality and Social Psychology, 58, 281-291.
- Fishbein, M., & Ajzen, I. (1975). Belief, attitude, intention and behavior: An introduction to theory and research. Reading, MA: Addison-Wesley.
- Fishbein, M., & Ajzen, I. (1976). Misconceptions about the Fishbein model: Reflections on a study by Songer-Nocks. Journal of Experimental Social Psychology, 12, 579-584.
- Fishbein, M., & Stasson, M. (1990). The role of desires, self-predictions, and perceived control in the prediction of training session attendance. Journal of Applied Social Psychology, 20, 173-198.
- Fisher, V. E., & Hanna, J. V. (1931). The dissatisfied worker. New York: McMillan.
- Ford, J. K., MacCallum, R. C., & Tait, M. (1986). The application of exploratory factor analysis in applied psychology: A critical review and analysis. Personnel Psychology, 39, 291-314.

Fried, Y., & Ferris, G. R. (1987). The validity of the job characteristics model: A review and meta-analysis. Personnel Psychology, 40, 287-322.

Fry, L. W., & Greenfeld, S. 1980. An examination of attitudinal differences between policewomen and policemen. Journal of Applied Psychology, 65, 123-126.

Furnham, A., & Zacherl, M. (1986). Personality and job satisfaction. Personality and Individual Differences, 7, 453-459.

George, J. M. (1990). Personality, affect, and behavior in groups. Journal of Applied Psychology, 75, 107-116.

George, J. M. (1992). The role of personality in organizational life: Issues and evidence. Journal of Management, 18, 185-213.

Gerhart, B. (1987). How important are dispositional factors as determinants of job satisfaction? Implications for job design and other personnel programs. Journal of Applied Psychology, 72, 366-373.

Goffin, R. D. (1993). A comparison of two new indices for the assessment of fit of structural equation models. Multivariate Behavioral Research, 28, 205-214.

Goldberg, L. R. (1992). The development of markers for the Big-Five factor structure. Psychological Assessment, 4, 26-42.

Gordon, M. E., Beauvais, L. L., & Ladd, R. T. (1984). The job satisfaction and union commitment of unionized engineers. Industrial and Labor Relations Review, 37, 359-370.

Gouldner, A. W. 1958. Cosmopolitans and locals: Toward an analysis of latent social roles--II. Administrative Science Quarterly, 2, 444-480.

Grusky, D. (1966). Career mobility and organizational commitment. Administrative Science Quarterly, 10, 488-503.

Hackett, R. D., Bycio, P., & Hausdorf, P. A. (1994). Further assessments of Meyer and Allen's (1991) three-component model of organizational commitment. Journal of Applied Psychology, 79, 15-23.

Hackman, J. R., & Oldham, G. R. (1975). Development of the Job Diagnostic Survey. Journal of Applied Psychology, 60, 159-170.

Harris, S. G., Hirschfeld, R. R., Feild, H. S., & Mossholder, K. W. (1993). Psychological attachment: Relationships with job characteristics, attitudes, and preferences for newcomer development. Group & Organization Management, 18, 459-481.

Hazan, C., & Shaver, P. R. (1987). Romantic love conceptualized as an attachment process. Journal of Personality and Social Psychology, 52, 511-524.

Hazan, C., & Shaver, P. R. (1990). Love and work: An attachment-theoretical perspective. Journal of Personality and Social Psychology, 59, 270-280.

Helmreich, R. L., Sawin, L. L., & Carsrud, A. L. (1986). The honeymoon effect in job performance: Temporal increases in the predictive power of achievement motivation. Journal of Applied Psychology, 71, 185-188.

Hollenbeck, J., & Klein, H. (1987). Goal commitment and the goal-setting process: Problems, prospects, and proposals for future research. Journal of Applied Psychology, 72, 212-220.

Horowitz, L. M., Rosenberg, S. E., & Bartholomew, K. (1993). Interpersonal problems, attachment styles, and outcome in brief dynamic psychotherapy. Journal of Consulting and Clinical Psychology, 61, 549-560.

Hortacsu, N., Cesur, S., & Oral, A. (1993). Relationships between depression and attachment styles in parent- and institution-reared Turkish children. Journal of Genetic Psychology, 154, 329-337.

Hunt, S. D., & Morgan, R. M. (1994). Organizational commitment: One of many commitments or key mediating construct? Academy of Management Journal, 37, 1568-1587.

Jahoda, M. (1956). Psychological issues in civil liberties. American Psychologist, 234-240.

John, O. P. (1990). The "Big Five" factor taxonomy: Dimensions of personality in the natural language and questionnaires. In L. A. Pervin (Ed.), Handbook of personality theory and research: 66-100. New York: Guilford.

Joreskog, K. G., & Sorbom, D. (1989). LISREL 7 user's reference guide. Mooresville, IN: Scientific Software.

Joreskog, K., & Sorbom, D. (1993). LISREL 8: Structural equation modeling with the SIMPLIS command language. Chicago: Scientific Software International.

Judge, T. A., & Hulin, C. L. (1993). Job satisfaction as a reflection of disposition: A multiple source causal analysis. Organizational Behavior and Human Decision Processes, 56, 388-421.

Kelman, H. C. (1958). Compliance, identification, and internalization: Three processes of attitude change. Journal of Conflict Resolution, 2, 51-60.

Kelman, H. C. (1961). Processes of opinion change. Public Opinion Quarterly, 25, 57-78.

Kelman, H. C., & Eagly, A. H. (1965). Attitude toward the communicator, perception of communication content, and attitude change. Journal of Personality and Social Psychology, 1, 63-78.

Kidron, A. (1978). Work values and organizational commitment. Academy of Management Journal, 21, 239-247.

Klein, M. H. (1967). Compliance, consistent conformity, and personality. Journal of Personality and Social Psychology, 5, 239-245.

Kobak, R. R., & Hazan, C. (1991). Attachment in marriage: Effects of security and accuracy of working models. Journal of Personality and Social Psychology, 60, 861-869.

Lee, T. W., Ashford, S. J., Walsh, J. P., & Mowday, R. T. (1992). Commitment propensity, organizational commitment, and voluntary turnover: A longitudinal study of organizational entry processes. Journal of Management, 18, 15-32.

Levin, I., & Stokes, J. P. (1989). Dispositional approach to job satisfaction: Role of negative affectivity. Journal of Applied Psychology, 74, 752-758.

- Levy, M. B., & Davis, K. E. (1988). Lovestyles and attachment styles compared: Their relations to each other and to various relationship characteristics. Journal of Social and Personal Relationships, 5, 439-471.
- Lewin, K. (1943). Defining the "field at a given time." Psychological Review, 50, 292-310.
- Locke, E. A. (1976). The nature and causes of job satisfaction. In M. D. Dunnette (Ed.), Handbook of industrial and organizational psychology: 1297-1343. Chicago: Rand McNally.
- Locke, E. A., Shaw, K. N., Saari, L. M., & Latham, G. P. (1981). Goal setting and task performance: 1969-1980. Psychological Bulletin, 90, 125-152.
- Long, J. S. (1983). Confirmatory factor analysis. Newbury Park, CA: Sage.
- Luthans, F., McCaul, H. S., & Dodd, N. G. (1985). Organizational commitment: A comparison of American, Japanese, and Korean employees. Academy of Management Journal, 28, 213-219.
- Mathieu, J. E., & Hamel, K. (1989). A causal model of the antecedents of organizational commitment among professionals and nonprofessionals. Journal of Vocational Behavior, 34, 299-317.
- Mathieu, J. E., & Kohler, S. S. (1990). A cross-level examination of group absence influences on individual absence. Journal of Applied Psychology, 75, 217-220.
- Mathieu, J. E., & Zajac, D. M. (1990). A review and meta-analysis of the antecedents, correlates, and consequences of organizational commitment. Psychological Bulletin, 108, 171-194.
- Mayseless, O. (1993). Gifted adolescents and intimacy in close same-sex friendships. Journal of Youth and Adolescence, 22, 135-146.
- McDonald, R. P., & Marsh, H. W. (1990). Choosing a multivariate model: Noncentrality and goodness of fit. Psychological Bulletin, 107, 247-255.
- Meglino, B. M., Ravlin, E. C., & Adkins, C. L. (1989). A work values approach to corporate culture: A field test of the value congruence process and its relationship to individual outcomes. Journal of Applied Psychology, 74, 424-432.
- Meyer, J. P., & Allen, N. J. (1984). Testing the "side-bet theory" of organizational commitment: Some methodological considerations. Journal of Applied Psychology, 69, 372-378.
- Meyer, J. P., Allen, N. J., & Smith, C. A. (1993). Commitment to organizations and occupations: Extension and test of a three-component conceptualization. Journal of Applied Psychology, 78, 538-551.
- Meyer, J. P., Paunonen, S. V., Gellatly, I. R., Goffin, R. D., & Jackson, D. N. (1989). Organizational commitment and job performance: It's the nature of the commitment that counts. Journal of Applied Psychology, 74, 717-733.
- Mikulincer, M., & Nachshon, O. (1991). Attachment styles and patterns of self-disclosure. Journal of Personality and Social Psychology, 61, 321-331.
- Mikulincer, M., Florian, V., & Tolmacz, R. (1990). Attachment styles and fear of personal death: A case study of affect regulation. Journal of Personality and Social Psychology, 58, 273-280.

Mikulincer, M., Florian, V., & Weller, A. (1993). Attachment styles, coping strategies, and posttraumatic psychological distress: The impact of the Gulf War in Israel. Journal of Personality and Social Psychology, 64, 817-826.

Mobley, W., Griffeth, R., Hand, H., & Meglino, R. (1979). Review and conceptual analysis of the employee turnover process. Psychological Bulletin, 86, 493-522.

Mohan, J., & Bali, S. (1988). A study of job satisfaction of doctors in relation to their personality, values and self-esteem. Journal of Personality and Clinical Studies, 4, 63-68.

Morrison, D. F. (1990). Multivariate statistical methods (3rd ed.). New York: McGraw-Hill.

Morrow, P. C., & McElroy, J. D. (1987). Work commitment and job satisfaction over three career stages. Journal of Vocational Behavior, 30, 330-346.

Mowday, R. T., Porter, L. W., & Steers, R. M. (1982). Employee-organization linkages: The psychology of commitment, absenteeism, and turnover. New York: Academic Press.

Mowday, R. T., Steers, R. M., & Porter, L. W. (1979). The measurement of organizational commitment. Journal of Vocational Behavior, 14, 224-247.

Myers, R. H. (1990). Classical and modern regression with applications (2d ed.). Boston: PWS-KENT.

Neter, J., Wasserman, W., & Kutner, M. H. (1990). Applied linear statistical models (3d ed.). Boston: Irwin.

O'Reilly, C. A., III, & Chatman, J. (1986). Organizational commitment and psychological attachment: The effects of compliance, identification, and internalization on prosocial behavior. Journal of Applied Psychology, 71, 492-499.

Organ, D. W. (1988). Organizational citizenship behavior. Lexington, MA: Lexington Books.

Paulhus, D. L. (1984). Two-component models of socially desirable responding. Journal of Personality and Social Psychology, 46, 598-609.

Paulhus, D. L. (1988). Assessing self-deception and impression management in self-reports: The Balanced Inventory of Desirable Responding. Unpublished manual, University of British Columbia, Vancouver, British Columbia.

Paullay, I. M., Alliger, G. M., & Stone-Romero, E. F. (1994). Construct validity of two instruments designed to measure job involvement and work centrality. Journal of Applied Psychology, 79, 224-228.

Peters, T. J., & Waterman, R. H., Jr. (1982). In search of excellence: Lessons from America's best-run companies. New York: Harper & Row.

Pierce, J. L., & Dunham, R. B. (1987). Organizational commitment: Pre-employment propensity and initial work experiences. Journal of Management, 13, 163-178.

Porter, L., Steers, R., Mowday, R., & Boulian, P. (1974). Organizational commitment, job satisfaction, and turnover among psychiatric technicians. Journal of Applied Psychology, 59, 603-609.

- Prestholdt, P. H., Lane, I. M., & Mathews, R. C. (1987). Nurse turnover as reasoned action: Development of a process model. Journal of Applied Psychology, 72, 221-227.
- Randall, D. M. (1987). Commitment and the organization: The organization man revisited. Academy of Management Review, 12, 460-471.
- Randall, D. M. (1990). The consequences of organizational commitment: Methodological investigation. Journal of Organizational Behavior, 11, 361-378.
- Reichers, A. E. (1985). A review and reconceptualization of organizational commitment. Academy of Management Review, 10, 465-476.
- Reichers, A. E. (1986). Conflict and organizational commitments. Journal of Applied Psychology, 71, 508-514.
- Ricks, M. E. (1985). The social transmission of parental behavior: Attachment across generations. In I. Bretherton & E. Waters (Eds.), Growing Points of Attachment Theory and Research. Monographs of the Society for Research in Child Development, 50 (1-2, Serial No. 209), 211-227.
- Romer, D. 1979. Internalization versus identification in the laboratory: A causal analysis of attitude change. Journal of Personality and Social Psychology, 37: 2171-2180.
- Sah, B., & Ojha, H. (1989). A study of personality correlates of job satisfaction among blue and white collar workers. Manas, 36, 63-71.
- Schein, E. H. (1985). Organizational culture and leadership. San Francisco: Jossey-Bass.
- Schmitt, N. W., & Klimoski, R. J. (1991). Research methods in human resource management. Cincinnati: South-Western.
- Schneider, B. (Ed.) (1990). Organizational culture and climate. San Francisco: Jossey-Bass.
- Senchak, M., & Leonard, K. E. (1992). Attachment styles and marital adjustment among newlywed couples. Journal of Social and Personal Relationships, 9, 51-64.
- Shaver, P. R., & Brennan, K. A. (1992). Attachment styles and the "Big Five" personality traits: Their connects with each other and with romantic relationship outcomes. Personality and Social Psychology Bulletin, 18, 536-545.
- Sheppard, B. H., Hartwick, J., & Warshaw, P. R. (1988). The theory of reasoned action: A meta-analysis of past research with recommendations for modifications and future research. Journal of Consumer Research, 15, 325-343.
- Simpson, J. A. (1990). Influence of attachment styles on romantic relationships. Journal of Personality and Social Psychology, 59, 971-980.
- Simpson, J. A., Rholes, W. S., & Nelligan, J. S. (1992). Support seeking and support giving within couples in an anxiety-provoking situation: The role of attachment styles. Journal of Personality and Social Psychology, 62, 434-446.
- Smith, C. A., Organ, D. W., & Near, J. P. (1983). Organizational citizenship behavior: Its nature and antecedents. Journal of Applied Psychology, 68, 653-663.

- Smith, P. B. (1976). Social influence processes and the outcome of sensitivity training. Journal of Personality and Social Psychology, 34, 1087-1094.
- Spence, J. T., & Robbins, A. S. (1992). Workaholism: Definition, measurement, and preliminary results. Journal of Personality Assessment, 58, 160-178.
- Staw, B. M., & Barsade, S. G. (1993). Affect and managerial performance: A test of the sadder-but-wiser vs. happier-and-smarter hypotheses. Administrative Science Quarterly, 38, 304-331.
- Staw, B. M., Bell, N. E., & Clausen, J. A. (1986). The dispositional approach to job satisfaction: A life-time longitudinal test. Administrative Science Quarterly, 31, 56-77.
- Staw, B. M., & Ross, J. (1985). Stability in the midst of change: A dispositional approach to job satisfaction. Journal of Applied Psychology, 70, 469-480.
- Steers, R. M. (1977). Antecedents and outcomes of organizational commitment. Administrative Science Quarterly, 22, 46-56.
- Steers, R. M., & Rhodes, S. R. (1978). Major influences on employee attendance: A process model. Journal of Applied Psychology, 63, 391-407.
- Steers, R. M., & Rhodes, S. R. (1984). Knowledge and speculation about absenteeism. In P.S. Goodman & R.S. Atkin (Eds.), Absenteeism: New approaches in understanding, measuring, and managing employee absence. San Francisco: Jossey-Bass.
- Steiger, J. H. (1980). Tests for comparing elements of a correlation matrix. Psychological Bulletin, 87, 245-251.
- Steiger, J. H., & Browne, M. W. (1984). The comparison of interdependent correlations between optimal linear composites. Psychometrika, 49, 11-24.
- Stevens, J. M., Beyer, J., & Trice, H. M. (1978). Assessing personal, role, and organizational predictors of managerial commitment. Academy of Management Journal, 21, 380-396.
- Stumpf, S. A., & Hartman, K. (1984). Individual exploration to organizational commitment or withdrawal. Academy of Management Journal, 27, 308-329.
- Sutton, C. D., & Harrison, A. W. (1993). Validity assessment of compliance, identification, and internalization as dimensions of organizational commitment. Educational and Psychological Measurement, 53, 217-223.
- Vandenberg, R. J., Self, R. M., & Seo, J. H. (1994). A critical examination of the internalization, identification, and compliance commitment measures. Journal of Management, 20, 123-140.
- Vroom, V. (1964). Work and motivation. New York: Wiley.
- Warshaw, P. R., & Davis, F. D. (1985). Disentangling behavioral intention and behavioral expectation. Journal of Experimental Social Psychology, 21, 213-228.
- Watson, D., & Clark, L. A. (1984). Negative affectivity: The disposition to experience aversive emotional states. Psychological Bulletin, 96, 465-490.

Watson, D., Clark, L. A., & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: The PANAS scales. Journal of Personality and Social Psychology, 54, 1063-1070.

Weiss, H. W., & Adler, S. (1984). Personality and organizational behavior. In B. M. Staw & L. L. Cummings (Eds.), Research in organizational behavior, 6, 1-50. Greenwich, CT: JAI Press.

Weiss, R. S. (1982). Attachment in adult life. In C. M. Parkes & J. Stevenson-Hinde (Eds.), The place of attachment in human behavior (pp. 171-184). New York: Basic Books.

Welsch, H. P., & LaVan, H. (1981). Inter-relationships between organizational commitment and job characteristics, job satisfaction, professional behavior, and organizational climate. Human Relations, 34, 1079-1089.

Whitley, B. E., & Gridley, B. E. (1993). Sex role orientation, self-esteem, and depression: A latent variables analysis. Personality and Social Psychology Bulletin, 19, 363-369.

Yukl, G. A. (1989). Leadership in organizations (2d ed.). Englewood Cliffs, NJ: Prentice Hall.

Zerbe, W. J., & Paulhus, D. L. (1987). Socially desirable responding in organizational behavior: A reconception. Academy of Management Review, 12, 250-264.